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BIBLIOGRAPHY

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MONTHLY INDEX OF RUSSIAN ACCESSIONS.
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This index is a record of the publications in languages spoken in the Soviet Union currently received by the Library of Congress and a group of cooperating libraries. It consists of three parts: Part A lists monographic literature published after 1944, with the title in the original language preceded by its English translation; Part B lists periodicals published after 1946; Part C constitutes a subject guide to both the monographs and periodical articles listed in Parts A and B.

AGRICULTURE

Kereselidze, Sh. Ya., Khukhuni, T. V. and others.
INVESTIGATION INTO THE OPERATION OF THE AUTOMATIC STABILIZER OF THE USG-12A HILL-SIDE TRACTOR, tr. by E. Harris. [1960] 7p. NIAE Trans. 80; M 1379.
Order from LC or SLA mi$1.80, ph$1.80 60-17206

Trans. of Traktory i Selkhozmashiny (USSR) 1959, no. 3, p. 4ff.
Reprint from Journal of Agricultural Engineering Research, 1959, v. 4, no. 3, p. 267-273.

The stabilizer is for use with the 3-wheeled USG-12A tractor. This tractor has 2 driven wheels steered simultaneously, positioned in 1 track, and a third, supporting wheel, arranged symmetrically with the driven wheels. The stabilizer uses the redistribution of the load upon the wheels, when the tractor operates on a slope, to cause an automatic adaptation of the framework to the ground contours. Tests showed that the stabilizer permits the tractor to operate normally on slopes up to 25° for any position of the supporting wheel. Descriptions are presented of the tractor, the stabilizer, and the test technique.

Mazanski, Marian.
ESTIMATE OF MACHINERY AT RESEARCH STATIONS OF THE INSTITUTE FOR MECHANIZATION AND ELECTRIFICATION OF AGRICULTURE (IMER) IN 1957 (Ocean Maszyn w Punktach Badawczych IMER w 1957 r.) tr. by D. Brzostowska. 1960 [3]p. PL-480
Order from OTS $0.50 60-21232

Trans. of Mechanizacja Rolnictwa (Poland) 1958, v. 5, no. 7, p. 28-29.

Evaluations, based on field observations, are made of the MCC-10A and MCC-6 threshing machines, the Z-5A harvester, the WNO-3 row-ridger, and the CB-18A Campbell-type rollers.

Mikhaylov, V., Suprunenko, B., and Yankevich, V.
A RADIO-CONTROLLED TRACTOR, tr. by E. Harris. [1960] 4p. N. I. A. E. Trans. no. 86; M1916.
Order from LC or SLA mi$1.80, ph$1.80 61-13301

Trans. of Traktory i Sel'khozmashiny (USSR) 1959, no. 11, p. 19ff.
Reprint from Journal of Agricultural Engineering Research, 1960, v. 5, no. 1.

Control mechanisms are described for a proposed Soviet tractor.

Vasilenko, P.
SOIL MECHANICS IN RELATION TO THE DESIGN OF FUNCTIONAL PARTS OF AGRICULTURAL MACHINERY (Mekhanika Pochvy v Svyazi s Konstruktivnymi Tipami Rabochikh Organov Sel'skokhozyaystvennykh Machin). [1960] 20p. 13 refs. PL-480-PST Cat. no. 25.
Order from OTS $0.50 60-51072

Trans. of Pochvovedeniye (USSR) 1934, no. 3, p. 311-325.

Animal Husbandry

Bilowicki, Jacek.
COMPARATIVE STUDIES ON ROOT AND GREEN CROP GRINDING MACHINES (Badania Porownawcze Maszyn do Rozdrabniania Okopowych i Zielonek) tr. by Danuta Brzostowska. 1960 [11]p. 3 refs. PL-480.
Order from OTS $0.50 60-21247

Trans. of Mechanizacja Rolnictwa (Poland) [1957] v. 4, no. 9, p. 11-16.

A comparative study was made of: (1) a Polish, D-70 type, root (sugar beet) cutter featuring an electric drive; (2) an unidentified Czechoslovakian root cutter with 2 drums; and (3) the "Junior" and "Favorite" green and root crop grinders made in the German Democratic Republic.

Madeyski, St., Nawrocki, J., and Szaflarski, J.
CASEOUS LYMPHADENITIS IN SHEEP CAUSED BY PASTEURELLA MULTOCIDA (Serowaciejace Zapalenie Wezlow Chlonnych u Owiec Wywolane Przez Pasteurella Multocida) tr. by M. Zawadowska. 1960 [4]p. PL-480.
Order from OTS $0.50 60-21515

Trans. of Medycyna Weterynaryjna (Poland) 1957, v. 13, no. 2, p. 75-77.

Plant Cultivation

Amelin, A. G.
SIGNIFICANCE OF LIQUID AEROSOLS IN THE CONTROL OF PESTS AND DISEASES OF AGRICULTURAL CROPS (Znacheniye Zhidkikh Aerozoley v Bor'be s Vrediteliyami i Boleznyami Sel'skokhozyaystvennykh Kul'tur). 19 Sep 60, 4p. Trans. V-1612
Order from LC or SLA mi$1.80, ph$1.80 61-13797

Trans. of mono. Aerozoli v Sel'skom Khozyaystve, Moscow, 1956, p. 5-7.

Improved methods for using residual poison in agriculture (pesticides, etc.) are needed. Liquid aerosols are effective, economical and convenient to disseminate, but data are still needed on aerosol dynamics near the ground.

Asmayev, P. G. and Thchenikov, V. V.
THE RELATION BETWEEN MOISTURE CAPACITY AND THE CARBOHYDRATE CONTENT OF TOBACCO. [1960] 6p. 8 refs.
Order from LC or SLA mi$1.80, ph$1.80 61-10330

Trans. of Tabak (USSR) 1951, v. 12, no. 3, p. 39-41.

Savina, A. V.
THE PHYSIOLOGICAL JUSTIFICATION FOR THE THINNING OF FORESTS, tr. by Bernard Toker. 1960, 91p. 64 refs. PL-480-PST Cat. no. 171.
Order from OTS $1.00 60-51130

Trans. of mono. Fiziologicheskoye Obosnovaniye Rubok Ukhoda, Moscow-Leningrad, 1956.

The book contains material, describing the changes in the exterior surroundings, the course of physiological processes in trees depending on the extent of thinning-out of the body of the forest, and the influence of thinning out of cultivated forests on the structure of wood. The book is intended for students in higher agricultural and technical schools, engineers and technical personnel of cultivated forest areas, agro-forestry amelioration (research) personnel, and other specialists in the (field of) forest economy. (Foreword)

Strogonov, B. P.
THE ADAPTATION OF COTTON PLANTS TO SOIL SALINITY (O Prisposoblenii Khlopchatnika k Pochvennomu Zasoleniyu). Nov 60 [6]p. 3 refs. RTS 1657.
Order from LC or SLA mi$1.80, ph$1.80 61-15212

Trans. of Akademiya Nauk SSSR. Doklady, 1946, v. 54, no. 5, p. 457-460.

BIOLOGICAL SCIENCES

Anatomy and Physiology

PROBLEMS OF THE PHYSIOLOGY OF THE PROCESSES OF FATIGUE AND RECOVERY, tr. by M. Roublev. 1960, 264p. 322 refs. PL-480-PST Cat. no. 127.
Order from OTS $2.75 60-51076

Trans. of mono. Voprosy Fiziologii Protsessov Utomleniya i Vosstanovleniya, Kiev, 1958.

Contents:
The paths of development of my research, by G. V. Fol'bort
The regularity of the energetics of the trophic process and their practical importance, by N. I. Putilin
The significance of fatigue and recovery in the development of some cases of pathology of the cardiovascular system, by V. V. Frol'kis
Changes in electrocardiograms during overload of the heart in acute experiments and in chronic experiments during muscular activity, by A. G. Filippova
The interrelation of the process of inhibition and recovery, by A. V. Semernina
On the question of changes of some manifestations of the functional state of the cortex of the human brain during muscular activity, by V. A. Novi

The process of summation of stimuli and the phenomenon of Sechenov-Pashutin during inhibition in the cortex of the human brain, by A. B. Fel'dman

An experiment in actively influencing the course of the processes of recovery in the secretory apparatus of the stomach glands, by Ya. P. Sklyarov

Problems of the rise of productivity of agricultural animals in the light of studies on exhaustion and recovery, by S. I. Chernyi

On the processes of fatigue and recovery in the kidney, by A. G. Martynyuk

The influence of increased arterial blood pressure on the functional capacity of some organs, by Ye. S. Aleksentseva

The role of satiation in the activity of the digestive glands, by N. I. Vakolyuk

The processes of recovery at various moments of secretory activity depending on its intensity, by V. B. Timchenko

The change of the temperature of a muscle during and after activity as an indicator of its efficiency, by S. I. Kondrashov

The temperature characteristic of the parotid salivary gland during prolonged strained activity and in the period of recovery, by D. G. Nalivaiko

Contribution to the study of the physiological mechanism of active rest, by I. V. Muravov

Some results of the study of the secretory process of the submaxillary salivary gland, by Ye. D. Bromberg

Changes of the chromatophilic substance of the nervous cells of the cerebrospinal reflex arc during fatigue and recovery, D. K. Migunova

Changes of the motor function in animals with variously developed nervous systems during their prolonged activity, by V. D. Gerasimov

On the compensating function of the liver in carbohydrate metabolism, by P. M. Kaplan

Changes of the serum proteins of blood during fatigue as a consequence of heavy muscular activity, by G. G. Didenko

Some results of the physiological characteristics of higher nervous activity of patients suffering from traumatic epilepsy, by N M. Sologub

Study of the after-effect of internal inhibition on the prolonged influence of inhibiting stimulators, by M. K. Bosiy

Interrelation of the processes of stimulation and inhibition during trace conditioned reflexes, by A. P. Kovtun

Data on the study of conditioned and unconditioned vasomotor reactions and the method of their graphic registration, by B. A. Vartapetov and K. M. Kalmykova.

Agarkov, G. B.
THE NEURAL APPARATUS OF THE ADRENAL GLANDS AND ITS REACTIVE CHARACTERISTICS (Nervovyy Aparat Nadnyrkovykh Zaloz i Yego Reaktyvni Osoblyvosti). 26 Dec 60, 15p. 48 refs. JPRS: 7316.
Order from OTS $0.50 61-11798

Trans. of Fiziologichnyy Zhurnal (USSR) 1960, v. 6, no. 4, p. 498-506.

Ginetsinskiy, A. G. and Shamarina, N. M.
THE TONOMOTOR PHENOMENON IN DENERVATED MUSCLE (Tonomotornyy Fenomen v Denervirovannoy Myshtse). Nov 60 [20]p. 33 refs. RTS 1710.
Order from LC or SLA mi$2.40, ph$3.30 61-15209

Trans. of Uspekhi Sovremennoy Biologii (USSR) 1942, v. 15, no. 3, p. 283-294.

The hypothesis is advanced that acetylcholine is liberated not at the nerve endings but by excitation of a widely distributed receptive substance in muscle fiber which is a carrier of acetylcholine and of cholinesterase. As excitation spreads, each portion of the receptive substance in succession liberates acetylcholine, which then initiates a local contraction. In non-tonic muscle the receptive substance serves only to transmit excitation from nerve to muscle.

Mastryukova, V. M. and Strzhizhovskiy, A. D.
NEUROHUMORAL REGULATION OF CELL DIVISION, tr. by Lydia Venters. June 60 [10]p. 48 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-4089

Trans. of mono. O Neyrogumoral'noy Regulyatsii Kletochnogo Deleniya, Moscow, 1959.

Biochemistry

Krasnovskiy, A. A., Drozdova, N. N., and Pakshina, Ye. V.
EFFECT OF CAROTENE ON THE PHOTOCHEMICAL PROPERTIES OF CHLOROPHYLL [Deystviye Karotina na Fotokhimicheskiye Svoystva Khlorofilla], tr. by Richard B. Mudge. [1960] 26p. (foreign text included) 11 refs.
Order from LC or SLA mi$2.70, ph$4.80
UCRL Trans-562

Trans. of *Biokhimiya (USSR) 1960, v. 25, no. 2, p. 288-295.

Piette, M. and Piette, C.
PERTURBATORY INFLUENCE OF ASCORBIC ACID ON THE DETECTION AND APPROX[IMATE] DETERMINATION OF URNINARY GLUCOSE BY MEANS OF AN ENZYMATIC REACTION AND CHEMICAL REACTION ON PAPER. [1960] 14p.
Order from SLA mi$2.40, ph$3.30 61-10249

Trans. of Path[ologie et] Biol[ogie] (France) 1959, v. 7, June, p. 1209-1217.

Botany

Lositskiy, K. B.
CHANGES IN THE WOOD CONTENT OF OAK TREES AS A RESULT OF THINNING (Izmeneniye Polnodrevesnosti Derev'yev Duba pri Rubkakh Ukhoda) [1960] 6p. PL-480-PST Cat. no. 162.
Order from OTS $0.50 60-51070

Trans. of Lesnaya Promyshlennost' (USSR) 1947, no. 2, p. 10-12.

Nikolayeva, M. G.
THE BIOLOGY OF GERMINATION OF ASH TREE SEEDS (FRAXINUS) AND ITS BEARING ON THE TAXONOMIC POSITION AND DISTRIBUTION OF ITS SPECIES (Biologiya Prorastaniya Semyan Yasenya (Froxinus) v Svyazi s Sistematicheskim Polozheniyem i Rasprostraneniyem Yego Vidov). [1960] 10p. 18 refs. PL-480-PST Cat. no. 179.
Order from OTS $0.50 60-51071

Trans. of Botanicheskiy Zhurnal (USSR) 1958, v. 43, no. 5, p. 679-683.

Sokolov, S. Ya. and Artyushenko, Z. T.
IVANOV SHOOTS IN THE PINE (Ivanovy Pobegi u Sosny). [1960] 6p. 6 refs. PL-480-PST Cat. no. 173.
Order from OTS $0.50 60-51043

Trans. of Botanicheskiy Zhurnal (USSR) 1957, v. 42, no. 5, p. 741-745.

Observations on Pinus silvestris and P. banksiana in a sapling nursery of the USSR Academy of Sciences are presented. Ivanov shoots (distinguished from ordinary annual shoots) occurred as a result of several growth surges during the summer months of 1953. There is a direct connection between the activity of the base of the shoot and that of the cambium.

Tageyeva, S. and Brandt, A. B.
A STUDY OF THE OPTICAL PROPERTIES OF LEAVES DEPENDING ON THE ANGLE OF LIGHT INCIDENCE. [1960] [12]p. 7 refs.
Order from LC or SLA mi$2.40, ph$3.30 61-10352

Trans. of *Biofizika (USSR) 1960, v. 5, p. 308-317.

Vinogradov, A. P., Kutyurin, M. V. and others.
ISOTOPIC COMPOSITION OF OXYGEN IN PHOTOSYNTHESIS AND RESPIRATION. [1960] [5]p. 10 refs.
Order from LC or SLA mi$1.80, ph$1.80 61-10353

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1960, v. 134, p. 1486-1489.

General Biology

GENERAL SCIENCE AND MISCELLANEOUS, INCLUDING METEOROLOGY, OCEANOGRAPHY, BIOLOGY, ASTROBIOLOGY, BOTANY, ZOOLOGY, MEDICAL SCIENCE, AEROMEDICINE, EDUCATION, FUELS, FUEL PRODUCTS, AND POWER NO. 1. Series 6 of English Abstracts of Selected articles from Soviet Bloc and Mainland China Technical Journals. Feb 61, 16p.
Order from OTS $9.00/6 issues 61-11145-1

Consists of abstracts in English.

Morozova, G. K. and Blyumenfel'd, L. A.
THE EFFECT OF OXYGEN ON THE EPR OF SPECTRA OF LYOPHILIZED TISSUE [O Vliyanii Kisloroda na Spektry Yepr Liofilizoyannykh Tkaney] tr. by Richard B. Mudge. Letter to the Editor. [1960] 12p. (foreign text included) 8 refs.
Order from LC or SLA mi$2.40, ph$3.30
UCRL Trans-561

Trans. of *Biofizika (USSR) 1960, v. 5, no. 2, p. 235-238.

Microbiology

Andreyevskiy, I. L.
BACTERIAL ACTION ON PETROLEUM STRATUM. [1960] 3p.
Order from LC or SLA mi$1.80, ph$1.80 61-10354

Trans. of Priroda (USSR) 1958 [v. 47] no. 10, p. 90-91.

Bukowski, T.
THE EFFECT OF THE APPLICATION OF ETHYLENE BICHLORIDE $C_2H_4Cl_2$ ON THE GERMINATION OF MUSHROOM SPORES (Wplyw Dwuchlorku Etylenu $C_2H_4Cl_2$ na Przyspieszenie Kielkowania Zarodnikow Pieczarki) tr. by Janina Starkman. [1960] [2]p. 4 refs. PL-480.
Order from OTS $0.50 60-21245

Trans. of Acta Microbiologica Polonica, 1954, v. 3, no. 4, p. 395-397.

Neurology and Psychiatry

WORKS OF THE INSTITUTE OF HIGHER NERVOUS ACTIVITY, PATHOPHYSIOLOGICAL SERIES, 1955, VOL. I. EXPERIMENTAL RESEARCH INTO HIGHER NERVOUS ACTIVITY, ESPECIALLY THE INTERACTION OF THE FIRST AND SECOND SIGNALLING SYSTEMS, IN CERTAIN NEUROPSYCHOTIC DISEASES. 1960, 484p. 239 refs. PL-480-PST Cat. no. 70.
Order from OTS $5.00 60-21858

Trans. of Akademiya Nauk SSSR. Institut Vysshey Nervnoy Deyatel'nosti. Trudy. Seriya Patofiziologicheskaya, 1955, v. 1 [p. 1-370] Ob"yektivnoye Issledovaniye Vysshey Nervnoy Deyatel'nosti, Osobenno Vzaimodeystviya Pervoy i Vtoroy Signal'nykh Sistem pri Nekotorykh Nervno-Psikhicheskikh Zabolevaniyakh.

Contents:
The basic paths from pathophysiology of the higher nervous activity to the psychiatric and neurosis clinics, by A. G. Ivanov-Smolenskiy
Pt. I. Pathophysiology of higher nervous activity in the clinics of psychiatry and the clinics of neuroses
Experimental investigation of conditioned disinhibition in schizophrenia, by Z. L. Sinkevich

Defects of neurodynamic and particularly of interactivity of the cortical signalling systems in paranoic schizophrenia, by Z. A. Kostandov
Some disorders of the interactivity of the first and second signalling systems in hysteria, by S. N. Rayeva
Disturbances of the neurodynamic in obsessive neurosis, by M. I. Seredina
Peculiarities of the interaction between the first and second signalling systems in obsession, by M. M. Trunova
Associations between the disturbances of the interactivity of the signalling systems and certain autonomic disturbances in reactive depression, by N. G. Gartsshtein
The characteristics of negative induction in patients with long-past "closed" cerebral traumatic aftereffects, by A. S. Aslanov
Disturbances of higher nervous activity in progressive paralysis, by M. I. Seredina
Disturbances of the interactivity of the first and second signalling systems in cases of alcoholic hallucinations, by M. I. Seredina
Disturbances of the cortical dynamics in chronic alcoholism, by I. V. Strel'chuk and Z. L. Sinkevich
Certain disturbances of the interactivity of the first and second signalling systems in chronic alcoholism, by Z. L. Sinkevich
Pt. II. The pharmacodynamic studies of higher nervous activity in clinics of psychiatry and neurosis
The effects of therapeutic doses of caffeine on the cortical dynamics in certain cases of neuroses, by M. M. Asatiani
The influence of caffeine on the interactivity of the first and second signalling systems in cases of chronic alcoholic hallucinations, by M. I. Seredina
The influence of single applications of prolonged sleep on certain disturbances of the cortical dynamics in patients suffering from hysteria, by S. M Rayeva
The influence of prolonged sleep on the cortical dynamics of patients suffering from obsessive state neuroses, by M. M. Trunova
The effect of a single application of prolonged sleep on certain disturbances of the cortical dynamics of patients with aftereffects from long-past "closed" traumas of the cerebrum, by A. S. Aslanov
Pt. III. Therapy of disturbances of the higher nervous activity in the clinics of psychiatry and neurosis
Experience in the treatment of patients suffering from chronic alcoholism by the establishment of a negative conditioned reaction to alcohol while the patient is in a hypnotic state, combined with therapeutic sleep, by I. V. Strel'chuk and Z. L. Sinkevich
Experience in the study of the cortical dynamics during hypnosis and in the course of hypnotherapeutic action in the light of I. P. Pavlov's teachings of the first and second signalling systems, by I. V. Strel'chuk
Experience in the treatment of reactive depression by means of prolonged sleep, by N. G. Gartsshtein
Experience with combination therapy of obsessive state neuroses on a pathogenic basis, by M. I. Seredina

General functional disturbances of the higher nervous activity and pathodynamic structures in neuroses and reactive conditions, by A. G. Ivanov-Smolenskiy

WORKS OF THE INSTITUTE OF HIGHER NERVOUS ACTIVITY, PHYSIOLOGICAL SERIES, 1955, VOL. 1, tr. by Jan Styr and others. 1960, 461p. 365 refs.
PL-480-PST Cat. no. 69.
Order from OTS $4.50 60-21857

Trans. of Akademiya Nauk SSSR. Institut Vysshey Nervnoy Deyatel'nosti. Trudy. Seriya Fiziologicheskaya, 1955, v. 1, p. 5-347.

Contents:
Experimental investigations into higher nervous activity of animals
Experimental investigation into higher nervous activity of the adult human.

WORKS OF THE INSTITUTE OF HIGHER NERVOUS ACTIVITY, PHYSIOLOGICAL SERIES, 1956, VOL. 2 tr. by Zvi Lothan and others. 1960, 374p. 277 refs.
PL-480-PST Cat. no. 71.
Order from OTS $4.00 60-21859

Trans. of Akademiya Nauk SSSR. Institut Vysshey Nervnoy Deyatel'nosti. Trudy. Seriya Fiziologicheskaya, 1956, v. 2.

Contents:
Experimental investigations into higher nervous activity of the adult human as applied to problems of physiology of the sensory organs
Experimental investigations into the activity of the central nervous system in animals, in particular into higher nervous activity
Electroencephalographic investigations connected with problems of physiology of the higher nervous activity
Experimental investigations into the higher nervous activity relating to the physiology of the autonomous functions.
(See also 60-21857)

Voino-Yasenetskiy, A. V.
EVOLUTIONARY REGULARITIES AS REFLECTED IN THE EPILEPTIFORM REACTION OF ANIMALS TO HIGH PARTIAL OXYGEN PRESSURE, ed. by L. A. Orbeli, tr. by A. Ferber. 1960 [141]p. 120 refs. PL-480-PST Cat. no. 202.
Order from OTS $1.50 60-51068

Trans. of mono. Otrazheniye Evolyutsionnykh Zakonomernostei v Epileptiformnoi Reakstii Zhivotnykh na Deistviye Vysokogo Partsial'nogo Davleniya Kisloroda, Moscow-Leningrad, 1958.

Experimental work is reported which is interpreted as proof that oxygen poisoning in fish, tailed amphibia, reptiles and mammals leads to a disintegration of functions of the central nervous system, exposing all stages lived through by the animal during the period of ontogenesis. In the course of the poisoning a gradual return to ever earlier coordination relations ensues. Experimental data indicate that the disintegration of functions follows the same path in earthworms, leeches, caterpillars and lampreys. In frogs the picture of oxygen poisoning concomitantly describes to a certain extent the development of the function of the central nervous system in the course of metamorphosis.

Pathology

MEDICAL CARE AND PUBLIC HEALTH SERVICES IN THE BELORUSSIAN SSR, USSR. 6 Jan 61, 26p. JPRS: 6517.
Order from OTS $0.75 61-11685

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Contents:
Measures for further improving the medical service and health protection by I. A. Insarov
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Akhmetov, A. M.
METHODS OF AND INDICATIONS FOR PUNCTURE OF THE LEFT CARDIAC VENTRICLE (Metodika i Pokazaniya k Punktsii Levogo Zheludochka Serdtsa). 28 Dec 60, 13p. 14 refs. JPRS: 7401.
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Order from LC or SLA mi$1.80, ph$1.80 61-13783

Trans. of mono. Tezisy Dokladov Mezhinstitutskoy Nauchnoy Konferentsii po Zabolevaniyam s Prirodnoy Ochagovost'yu, Posvyashchennoy 50-Letiyu, Tomsk, 1956, p. 68-69.

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QUESTION ABOUT PRESERVATION OF B. TULARENSE IN NATURAL TULAREMIA FOCI (K Voprosu Khranenii B. Tularense v Prirodnykh Ochagakh Tulyaremii). 2 Sep 60, 3p. Trans. V-1605.
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Bukhtoyarova, Z. M. and Lemberg, V. K.
TUMORS IN RATS INDUCED BY INTRAPERITONEAL ADMINISTRATION OF PLUTONIUM NITRATE (PU^{239}), tr. by Lydia Venters. June 60 [14]p. 18 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-4088

Trans. of mono. Opukholy u Krys Voznikshiye Posle Vnutribryushinnogo Vvedeniya Azotnokislogo Plutoniya (PU^{239}), Moscow, 1959.

Cloetens, W., Mey, D. de and others.
CHEMICAL-PHARMACOLOGIC AND CLINICAL STUDY OF AMORPHOUS GITALIN AND NEO-GITALIN. I. AMORPHOUS GITALIN. [1961] 18p. (10 figs. omitted).
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Trans. of Bruxelles-Médical (Belgium) 1958 [v. 38] no. 18, p. 719-733.

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IMPROVEMENT OF THE BIOLOGICAL METHOD OF RESEARCH ON TULAREMIA (Sovershenstvovaniye Biologicheskogo Metoda Issledovaniya pri Tulyaremii). 1 Sep 60, 3p. Trans. V-1601.
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Trans. of mono. Tezisy Dokladov Mezhinstitutskoy Nauchnoy Konferentsii po Zabolevaniyam s Prirodnoy Ochagovost'yu Posvyashchennoy 50-Letiyu, Tomsk, 1956, p. 76-77.

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THE EFFECT OF THE "GITALIN" FRACTION IN EXPERIMENTAL CARDIAC INSUFFICIENCY. [1961] 19p. 21 refs.
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CHARACTER OF THE RAT-TYPE TULAREMIA FOCUS IN THE TAIGA ZONE OF WESTERN SIBERIA (Kharakteristika Krysinogo Tipa Ochaga Tulyaremii v Tayezhnoy zone Zapadnoy Sibiri). 1 Sep 60, 9p. Trans. V-1596.
Order from LC or SLA mi$1.80, ph$1.80 61-13782

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Order from OTS $0.50 61-11699

Trans. of Sovetskaya Meditsina (USSR) 1960, v. 24, no. 1, p. 48-53.

The objection that blood transfusion may stimulate neoplastic growth is countered by the statement that the blood to be used can be evaluated as to its hormone content, e.g., one should use the blood of a young female donor when estrogen therapy is indicated. Results are reported of blood transfusions administered in two Odessa institutions to 337 patients with various types of neoplasms. A beneficial effect

(higher blood pressure, increased body weight, improved appetite) was noted in 270 cases. The principal contraindication is cardiac insufficiency; marked leukopenia is also a contraindication. The continuous drip method of administration is preferred.

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CLINICAL EFFECTIVENESS OF THE MODERN SULFONAMIDES OF THE SULFANILIDO-DIAZINE SERIES. [1960] 7p.
Order from ATS $10.80 ATS-67M46G

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Order from LC or SLA mi$1.80, ph$1.80 61-13788

Trans. of mono. Tezisy Dokladov Mezhinstitutskoy Nauchnoy Konferentsii po Zabolevaniyam s Prirodnoy Ochagovost'yu, Povyashchennoy 50-Letiyu, Tomsk, 1956, p. 78-79.

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Trans. of *Uspekhi Sovremennoy Biologii (USSR) 1960, v. 50, no. 1(4) p. 77-100.

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Order from ATS $3.75 ATS-32M46SP

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Observations following mass poliomyelitis vaccination per os (over 400,000 individuals of varying ages) undertaken in Latvia in February- May 1959 are reported. Incidence of poliomyelitis was lower in Latvia in 1959 than in any other postwar year. Among the persons vaccinated with dilute live poliomyelitis virus, the incidence of paralytic forms dropped to insignificant figures. Polio-like syndromes were encountered among persons who had received the live vaccine in sufficient numbers to warrant further investigation. In one region in which vaccination was extensively carried out, there has been an outbreak of lymphocytic choriomeningitis.

Ramon, G., Richou, R. and others.
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Order from SLA mi$2.70, ph$4.80 61-10449

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Order from LC or SLA mi$2.40, ph$3.30 61-13808

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AEROSOL IMMUNIZATION WITH DRY, POWDERED VACCINES AND TOXOIDS. COMMUNICATION II. STUDY OF THE EFFECTIVENESS OF THE AEROSOL METHOD OF IMMUNIZATION AND REIMMUNIZATION WITH DRY, POWDERED DIPHTHERIA TOXOID (Aerozol'naya Immunizatsiya Sukhimi Pylevidnymi Vaktsinami i Anatoksinami. Soobshcheniye II. Izucheniye Effectivnosti Aerozol'nogo Metoda Immunizatsii i Reimmunizatsii Sukhim Pylevym Difteriinym Anatoksinom). 10 Oct 60, 10p. Trans. V-1625.
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Sung, Len-fen.
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Order from OTS $0.50 61-11840

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PROBLEMS OF EXPERIMENTAL IRRADIATION PROCEDURES AND SOME RADIOBIOLOGICAL DATA, trans. by Lydia Venters. June 60 [17]p. 17 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-4085

Trans. of mono. Zadachi Eksperimental'noy Tekhniki Luchevykh Vozdeystviy i Nekotorye Radiobiologicheskiye Dannyye, Moscow, 1959.

The major part of this paper is addressed to the problem of ensuring uniform irradiation throughout the entire volume of the experimental animal.

Grigor'yev, Yu. G.
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Order from OTS $2.50 AEC-tr-4284

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Contents:
The action of ionizing radiation on the central nervous system (according to literature data)
Methodological peculiarities of the study of radiation complications in radiation therapy clinic

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Certain results of the study of the reactions of the human central nervous system to irradiation

Gubin, V. A. and Moskalev, Yu. I.
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Order from LC or SLA mi$3.00, ph$6.30 AEC-tr-4086

Trans. of mono. O Biologicheskom Deystvii Ioniziruyushchey Radiatsii v Malykh Dozakh, Moscow, 1959.

This survey, which is based on an extensive Soviet bibliography, is divided under the following headings: Hematopoiesis; Respiratory and cardiovascular systems; Immunobiological problems; Gonads and offspring; Bone; Eye. "Small doses" are defined as doses of the order of 0.05 - 5 r.

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HYGIENIC CHARACTERISTICS OF WORK CONDITIONS WHEN USING ARTIFICIAL RADON BATHS (Gigiyenicheskaya Kharakteristika Usloviy Truda pri Primenenii Iskusstvennykh Radonovykh Vann). 20 Dec 60, 6p. JPRS: 7296.
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Trans. of Gigiyena Truda i Professional'nyye Zabolevaniya (USSR) 1960 [v. 4] no. 8, p. 45-47.

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THE INFLUENCE OF INSULIN ON THE COURSE AND OUTCOME OF RADIATION SICKNESS, tr. by Esther Goldberg. Aug 60, 8p. 12 refs.
Order from LC or SLA mi$1.80, ph$1.80 UCRL Trans-567

Trans. of *Farmakologiya i Toksikologiya (USSR) 1959, v. 22, p. 555-557.

In an experiment using 1450 white male mice, a preparative injection of insulin in a 0.1 - 0.2 u/kg dose 1 to 2 hr before exposure to ionizing radiation of 600 and 800 r was shown to afford a moderately protective effect.

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NEW RULES FOR TRANSPORTING RADIOACTIVE MATERIALS (Novye Pravila Transportirovaniya Radioaktivnykh Veshchestv). Oct 60, 2p. 1 ref.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-4227

Trans. of *Atomnaya Energiya (USSR) 1959, v. 7 [no. 4] p. 399.

This document appears to be a review of the recently published Temporary Safety Rules for Transporting Radioactive Materials (Government Medical Publishing House, Moscow, 1959).

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Order from OTS $0.50 61-11761

Trans. of Grudnaya Khirurgiya (USSR) 1960, v. 2, no. 4, p. 37-46.

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Order from OTS $0.50 60-51041

Trans. of Akademiya Nauk SSSR. Ikhtiologicheskaya Komissiya. Trudy Soveshchaniy [1954, no. 4] p. 22-37.

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MEANS OF RESTORING AND INCREASING THE SCHOOLS OF KAMCHATKA SALMON (Puti Vosstanovleniya i Uvelicheniya Stad Kamchatskikh Lososei). [1960] 16p. PL-480-PST Cat. no. 7.
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Trans. of Akademiya Nauk SSSR. Ikhtiologicheskaya Komissiya. Trudy Soveshchaniy, 1954, no. 4, p. 10-21.

The sharp decrease in the Kamchatka sockeye is considered to be the result of unfavorable reproduction conditions, rather than of overfishing. The organization of hatcheries and nurseries with elimination of competitors and predators is proposed.

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Order from OTS $0.50 60-51078

Trans. of *Entomologicheskoye Obozreniye (USSR) 1958, v. 37, no. 2, p. 369-373.

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Order from OTS $6.00/6 issues 61-11141-1

Consists of abstracts in English.

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PROCESS FOR THE PREPARATION OF POLYAMIDES. [1961] 18p.
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Gel'man, N. E. and Ven-Yun, V.
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Order from ATS $11.85 ATS-32M45R

Trans. of *Zhur[nal] Anal[iticheskoy] Khim[ii] (USSR) 1960, v. 15, no. 4, p. 487-494.

Huijten, F. H.
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Order from BISI £2 15s BISI 1961

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Order from ATS $7.50 ATS-28M46R

Trans. of *Zhurnal Anal[iticheskoy] Khim[ii] (USSR) 1960, v. 15, no. 2, p. 207-210.

Liberti, Arnaldo and Cartoni, Gian Paolo.
THE COULOMETRIC DETERMINATION OF MERCAPTANS SEPARATED BY MEANS OF GASEOUS PHASE CHROMATOGRAPHY (Determinazione Coulombometrica di Mercaptani Separati Mediante Cromatografia in Fase Gassosa). [1960] [16]p. 9 refs.
Order from SLA mi$2.40, ph$3.30 61-10474

Trans. of la Chimica e l'Industria (Italy) 1957, v. 39, no. 10, p. 821-824.

Mikhaylov, M. K.
THE SHMUK METHOD FOR DETERMINATION OF POLYPHENOLS IN TOBACCO (O Metode Shmuka dlya Opredeleniya Polifenolov v Tabake) tr. by M. Slade. [1960] [7]p. (foreign text included) 8 refs. Trans. no. 4941.
Order from LC or SLA mi$1.80, ph$1.80 61-15172

Trans. of Tabak (USSR) 1959, v. 20, no. 2, p. 41-43.

Paper chromatography was used to determine the influence of polyphenols on the reducing capacity (with respect to Fehling's solution) of aqueous extracts of tobacco before and after their acid hydrolysis. Results indicated that the polyphenols contained in nonhydrolyzed tobacco extract have no influence on its reducing capacity with respect to Fehling's solution, and in the hydrolyzed extract the aglycones of the polyphenols of the group of flavone derivatives are the only active principle. Shmuk's method gives only the aglycones of the polyphenols of the Flavone-derivative group which react with Fehling's solution. (See also 59-10145)

Neyman, M. B.
A KINETIC TRACER METHOD FOR STUDYING THE MECHANISMS OF COMPLEX CHEMICAL AND BIOCHEMICAL PROCESSES. I. THEORY OF THE METHOD (Kineticheskii Metod Primeneniya Mechenykh Atomov dlya Issledovaniya Mekhanizma Slozhnykh Khimicheskikh i Biokhimicheskikh Processov. I. Teoriya Metoda). [1960] 14p. 11 refs.
Order from LC or SLA mi$2.40, ph$3.30 61-10529

Trans. of Zh[urnal] Fizicheskoy Khimii (USSR) 1954, v. 28, no. 7, p. 1235-1242.

A new kinetic method of applying labeled atoms for the study of the mechanism of complex chemical and biochemical processes is proposed. Procedures have been developed for calculating the rate constants of the formation and consumption of intermediate reaction products from data obtained by means of the kinetic method. (Author)

Niki, E. and Shirai, H.
ANALYSIS OF COLLOIDAL ZINC IN BLACKENED ZnS PHOSPHORS. I. ANALYTICAL METHODS AND BLACKENING CURVE. [1961] 8p. 5 refs.
Order from RIS $40.00 RIS G-257

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1952, v. 55, p. 419-422.

Olenovich, N. L., Morozov, A. A., and Siritsova, Ye. G.
DIFFUSION PRECIPITATION CHROMATOGRAPHY OF SULPHIDES USING AGAROID JELLY (Diffuzionnaya Osadochnaya Khromatografiya Sulfidov na Agaroidnom Studne). Nov 60 [5]p. 2 refs. RTS 1559.
Order from LC or SLA mi$1.80, ph$1.80 61-13945

Trans. of Ukrainskiy Khimicheskiy Zhurnal (USSR) 1959, v. 25, no. 4, p. 509-511.

Series separation of trivalent Fe, Cr, Ni, Co, Zn, Mn, Cu, Cd, Bi, Hg, Pb cations was made to observe chromatograms both as formed and after a time lapse. The purpose was to investigate (1) precipitate formation and change, (2) the separation of binary mixtures of Fe, Zn, Mn, Cr, Cu, Cd, Co, Ni cations, and (3) the separation of ternary mixtures of Cu, Zn, Cr, Pb, Ni, Cd, Hg, Mn, Co. Columnar sulfide diffusion precipitation chromatograms were prepared with agaroid jelly (from Black Sea red alga Phyllofera) as carrier, containing Na_2S. The sensitivity for Cu and Cd ions from binary mixtures is 0.01 mg-equivalent; for the other ions it is lower. Bi cations showed rapid diffusion rate into the jelly. It was not possible to separate Hg and Cd ions. The width of the colored sulfide bands in the agaroid was a function of the Cu and Zn concentration in solution. The chromatography of cation mixtures permits the identification of one ion in a higher concentration of another.

Sokolov, I. Yu.
TABLES AND NOMOGRAMS OF HYDROCHEMICAL ANALYSIS. Nov 60, 83p.
Order from CB $4.35

Trans. of Russian mono. [Tablitsy i Nomogrammy dlya Rashcheta Resul'tatov Gidrokhimicheskikh Analizov, Moscow, 1958].

Takimoto, Masayoshi and Sawada, Masaru.
COLORIMETRIC DETERMINATION OF GUANIDINE, DICYANDIAMIDE, AND BIGUANIDE. Rept. 2 of Studies on Separation and Determination Methods for Cyanamide Derivatives. [1960] 14p. 7 refs.
Order from SLA mi$2.40, ph$3.30 60-18882

Trans. of Kogyo Kagaku Zasshi (Japan) 1960, v. 63, no. 5, p. 799-803.

Absorption spectra, effects of changes in reagent composition, and the effect of pH of the sample solution were determined for the color reactions of dicyandiamide, guanidine, and biguanide with the reagent sodium nitroprusside-potassium ferricyanide-sodium hydroxide. Guanidine and biguanide were determined within 1 to 10 μg/ml and dicyandiamide within 5 to 50 μg/ml with a relative error of 1 to 2%. (See also 60-18881)

Serdyuk, L. S. and Fedorova, G. P.
A STUDY OF THE COLOURED COMPLEXES OF SOME RARE-EARTH ELEMENTS AND ALUMINON (Izucheniye Okrashennykh Kompleksov Nekotorykh Redkozemel'nykh Elementov s Alyuminonom). Nov 60 [8]p. 7 refs. RTS 1560.
Order from LC or SLA mi$1.80, ph$1.80 61-15213

Trans. of Ukrainskiy Khimicheskiy Zhurnal (USSR) 1959, v. 25, no. 5, p. 644-649.

It was proved that colored complexes of rare-earth elements with aluminon can be produced without sulfosalicylic acid if solutions of aluminon containing ammonia or amine are used. For this, it is expedient to use, as a medium, an ammonium acetate buffer solution pH 60. The soluble colored complexes may be formed without the presence of an ammonium acetate buffer, by the action of an aqueous solution of aluminon on the rare-earth element with subsequent addition of ammonia or amine. The isomolar series method was used for determining the composition of the aurintricarbonxylates of lanthanum, cerium and yttrium, formed by the action of an aqueous ammonia solution of aluminon. The colorimetric method of determing lanthanum and cerium, by using an aqueous ammonia solution of aluminon and an ammonium acetate buffer solution and heating, is suggested. The pH of the colorimetric solution should be 8.0. (Author)

Takimoto, Masayoshi and Koeda, Kikuo.
IDENTIFICATION OF CYANAMIDE DERIVATIVES AND THEIR METHYLOL COMPOUNDS BY PAPER CHROMATOGRAPHY. Rept. 1 of Studies on Separation and Determination Methods for Cyanamide Derivatives and rept. 1 of Studies on Condensates of Cyanamide Derivatives with Formaldehyde. [1960] 12p. 7 refs.
Order from SLA mi$2.40, ph$3.30 60-18881

Trans. of Kogyo Kagaku Zasshi (Japan) 1960, v. 63, no. 5, p. 797-799.

Color reactions are given for cyanimide, cyanourea, nitroguanidine, dicyandiamide, thiourea, biuret, urea, guanidine, biguanide, aminoguanidine, formamidine, and dicyanoguanidine developed with the solvents n-butanol: ethanol:water (4:1:2), and butanol:acetic acid:pyridine:water (4:1:1:2) and reacted with sodium nitroprusside-potassium ferricyanide, p-dimethyl aminobenzaldehyde, and Tollens' reagent. The condensates of the reactions of cyanamide derivatives with formalin were studied by paper chromatography using the above color reaction agents. (See also 60-18882)

Usanovich, M., Sumarokova, T. and Nevskaya, Yu.
CRYOSCOPIC TITRATION (Krioskopicheskoye Titrovaniye). [1960] 6p. (foreign text included) 2 refs.
Order from LC or SLA mi$1.80, ph$1.80
UCRL Trans-573(L)

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 98, no. 4, p. 617-618.

Cryoscopic titration is proposed for quantitative analysis of organic substances, because it is possible to select the appropriate reactions of complex-formation or precipitation for the representatives of the most different classes of compounds. Examples are given showing that is is possible to separate selectively mixtures of organic substances. With stannic chloride, ethyl ether was separated from furfurole and benzaldehyde, acetone and quinone from dioxane.

Inorganic Chemistry

JOURNAL OF INORGANIC CHEMISTRY, 1957, VOL. 2, NO. 1. 1960, 357p. refs. PL-480-PST Cat. no. 78.
Order from OTS $3.75 AEC-tr-4051

Trans. of Zhurnal Neorganicheskoy Khimii (USSR) 1957, v. 2, no. 1.

Contents:

Composition and dissociation pressure of a stable crystallohydrate of uranium tetrafluoride, by M. M. Popov and Yu. V. Gagarinskiy
The heat of formation of uranyl fluoride and the heats of reactions of hexa- and tetra- fluorides of uranium with water, by M. M. Popov and others
The chemistry of compounds of a variable composition, Pt. VI. the titanium-oxygen system, by S. M. Ariya and others
The chemistry of compounds of a variable composition, Pt. VII. the cobalt-tellurium system and the enthalpy of formation of the cobalt tellurides, by S. M. Ariya and others
The reduction of ferric sulfate by coal, by S. A. Gordon and M. A. Menkovskiy
The composition and properties of borides of the elements of the first and second groups of the periodic system, by L. Ya. Markovskiy and Yu. D. Kondrashev
Absorption of light by complex compounds of trivalent cobalt, Pt. I. Dependence of the absorption spectra of the compounds of the type (Coen$_2$ Amine Cl) X_2 upon the nature of the co-ordinated amine, by A. V. Ablov and M. P. Filippov
The spectrophotometric study of nickel pyridinate salts in aqueous solution, by A. V. Ablov and L. V. Nazarova
Spectrophotometric study on interaction of ions of zinc with purpuric acid, by V. N. Tolmachev and Ts. Yu. Vestfrid
Determination of the composition of cobalt xanthogenates, by I. M. Korenman and others
Investigation of some complex compounds of cadmium and zinc by means of ion exchange, by I. A. Korshunov and others
The chromatographic method of comparative evaluation of the stability of complex compounds, Pt. II. Complex compounds of Y(Yb) with some organic substances, by L. I. Tikhonova and M. M. Senyavin
The formation of the lower oxides of niobium and tantalum in some reactions of reduction and oxidation, by A. V. Lapitskiy and others
Synthesis and analysis of heteropolyacids of germanium, by R. K. Motorkina
The kinetics of the reaction of ammonia with potassium chloroplatinite and cossa's salt, by A. A. Grinberg and Yu. N. Kukushkin
A study of the reduction reaction of the hydroxypentachloride of tetravalent ruthenium - $K_2[RuOHCl_5]$, by N. K. Phenitsyn and S. I. Ginzburg
Gravimetric determination of palladium with 1.2 - cyclohexanedionedioxime (nioxime) by N. K. Pshenitsyn and O. M. Ivonina
The salycilates of uranium and thorium, by O. Ye. Zvyagintsev and B. N. Sudarikov

A study on the complexes of titanium with chromotropic acid and 1.8 dihydroxynaphthalene, by A. K. Babko and O. I. Popova

A study of the pyrocatechinate complexes of titanium, by A. K. Babko and O. I. Popova

Determination of the extent of hydration of highly soluble salts in concentrated solutions, by Ye. I. Akhumov and N. S. Spiro

Investigation of solubility of titanium and phase composition of alloys in the quinary system: nickel - chromium - tungsten - aluminum - titanium, by I. I. Kornilov and others

Ternary system of sodium, cadmium and lead iodides, by I. I. Il'yasov and A. K. Bostandzhiyan

Region of crystallization of the phase diagram of the ternary system of sodium, potassium and cadmium chlorides, by I. I. Il'yasov and others

Fusion diagram of the reciprocal system of the fluorides and silicates of lithium and potassium, by A. G. Bergman and N. A. Bychokova-Shul'ga

Mutual relation between sulfates of alkaline metals and thallium in alloys, by Ye. K. Akopov and A. G. Bergman

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Conditions of formation of solid solutions in the system CeO_2 -SrO, by E. K. Keler and N. A. Godina

Effect of nickel on the properties of the semiconducting compound, $CoSb_3$, by L. D. Dudkin and N. Kh. Abrikosov

Study of solubility in the system $UO_2C_2O_4$ - $H_2C_2O_4$ - H_2O, by K. A. Bol'shakov and others

Dyev, N. P., Paduchev, V. V. and others.
REACTIONS OF CERTAIN SULPHIDES WITH SULPHUR DIOXIDE AND SULPHATES, tr. by Stefan Dobrainskyj. Sep 58, 6p. 13 refs. Trans. no. CRL/T. 2; M1776.
Order from LC or SLA mi$1.80, ph$1.80 61-13106

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1958, v. 118, no. 4, p. 782-784.
Another translation is available from CB $5.00.

Ryabchikov, D. I., ed.
RARE-EARTH ELEMENTS (EXTRACTION, ANALYSIS, APPLICATIONS) tr. by S. Caspari-Zylberszac and others. 1960, 356p. refs. PL-480-PST Cat. no. 116.
Order from OTS $3.75 60-21172

Trans. of mono. Redkozemel'nyye Elementy (Polucheniye, Analiz, Primeneniye) Moscow, 1959.

Contents:

Utilization of the rare-earth elements, A. P. Vinogradov

Rare-earth elements and the general methods of their production, by D.I. Ryabchikov and others

Geochemistry of the rare-earth elements, by V. I. Gerasimovskiy

Causes of the variations in specific gravity of the Khibin apatites, by M. I. Volkova

Isolation of cerium from the rare-earth elements and its production in pure form, by I. N. Zaozerskiy and P. N. Patkin

The use of double sulfates for the separation of the rare-earth elements into subgroups, and the production of high-percentage concentrates of some elements of the yttrium subgroup, by R. V. Kotlyarov and G. P. Kozhemyako

The use of complex-forming substances for the separation of the rare-earth elements, using the method of fractional precipitation of double sulfates, by P. V. Kotlyarov and G. P. Kozhemyako

An investigation in the field of the chemistry and separation of rare-earth elements (isolation of Ce, of La and of concentrates of Pr, of Nd and of heavy rare-earth elements) by A. V. Nikolayev and others

On the separation of the elements of the yttrium subgroup according to their basicity, by Z. F. Andreyeva

Production of pure yttrium, by Z. F. Andreyeva and P. N. Patkin

Nickelnitrite complexes and their use for the separation of the rare-earth elements into subgroups, by G. P. Aleksandrov

On large-scale chromatographic separation of mixtures of rare-earth elements, by M. M. Senyavin and F. D. Iozefovich

Trilon B in ion-exchange of the scarcer rare-earth elements, by Z. F Andreyeva and others

Characteristics of trilon A and trilon B in the ion-exchange separation of elements of the cerium subgroup, by Z. F. Andreyeva and A. S. Kostygov

Problems in chromatographic separation of rare earth elements, by L. I. Martynenko

Separations of cerium subgroup elements on NSK cation exchangers, by Ya. Ya. Dodonov and others

Separation of R.E.E by countercurrent chromatography, by Ye. P Cherneva and others

Separation of R.E.E. on anion exchange resins, by G. M. Kolosova and M. M. Senyavin

Comparison of electrochemical methods of obtaining ytterbium, by S. I. Sklyarenko and others

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The separation of rare-earth elements in the form of oxalates and fluorides in the presence of large amounts of other elements, by I. P. Alimarin and F. I. Pavlotskaya

Rapid method for the determination of cerium in loparite, by V. L. Zolotavin and L. K. Ponomareva

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Quantitative determination of ytterbium and samarium, by M N. Ambrozhiy and Ye. F. Luchnikova

The reaction of the R.E.E. salts with rhodizonic acid, by N. S. Poluyektov

Chemical method of control in the isolation of the R•E•E of the yttrium subgroup, by V. I. Kuznetsov and Ye. V. Mitrofanova

The use of partition chromatography on paper in approximate determination of R.E.E. compositions, by N. S. Poluyektov and others

Determination of small quantities of Europium by fluorescence, by N S. Poluyektov and M. P. Nikonova

Problems of speedy determination of iron oxide content in the KL-20 compound, by B. I. Panasyuk and R. A. Yaroshevitch

Tentative application of x-ray spectroscopic analysis to the control of the technological process of R.E.E. separation, by Ye. Ye. Vaynshteyn and others

Spectrochemical determination of Gd, Eu, and Sm in atomic materials, Rept. I, the principle of the method and its application to the analysis of beryllium, by A. N. Zaydel' and others

Spectrochemical determination of Gd, Eu, and Sm in atomic materials, Rept. II, analysis of thorium and uranium, by A. N. Zaydel' and others

Spectrochemical determination of Gd, Eu, and Sm in atomic materials, Rept. III, analysis of zirconium and bismuth for Gd, by A. N. Zaydel' and A. A. Lipovskiy

Determination of small traces of rare-earth elements in purified preparations of rare-earth elements by the method of analysis of emission spectra, by T. I. Grishina

Spectrophotometric study of complex compounds of rare-earth elements, by V. M. Peshkova and others

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Problems in the use of rare-earth elements in the glass industry, by K. T. Bondarev and V. A. Dubrovskiy

The use of "Polirit" for the polishing of glass on the conveyor of the plant im. F. Ye. Dzerzhinskiy, by R. I Tsoy and others

Microstructure and physiocomechanical properties of rare earth metals and their alloys, by Ye. M. Savitskiy and V. F. Terekhova

Rare-earth elements as catalysts in organic chemistry of cerium, lathanum and samarium oxides, by A. A. Tolstopyatova and A. A. Balandin

The use of rare-earth elements in chemistry of luminophores, by V. L. Levshin and others

Use of rare-earth metals for alloying magnesium cast alloys, by N. M. Tikhova and V. A. Blokhina.

Organic Chemistry

PROCESS FOR IMPROVING LINEAR POLYOLEFINS. [1961] 8p.
Order from RIS $14.00 RIS rept. 97129

Trans. of German patent application F 23 715 (39b, 22/06) DAS 1 068 007, by Farbwerke Hoechst A. G., filed 8 Aug 57, pub. 29 Oct 59.

PROCESS FOR PRODUCING MIXTURES OF VINYL CHLORIDE POLYMERS AND GRAFT COPOLYMERS WITH IMPROVED PLASTICIZERS. [1961] 9p.
Order from RIS $25.00 RIS rept. 61080

Trans. of German patent application M 34 587 (39c, 25/01) DAS 1 065 618, by Montecatini Soc. Gen. per l'Industria Mineraria e Chimica, Milan, Italy, filed 28 June 57, pub. 17 Sep 59 (priority, Italy, 28 June 56).

PROCESS FOR THE HALOGENATION OF POLYMERS OF OLEFINIC UNSATURATED HYDROCARBONS. [1961] 10p.
Order from RIS $16.00 RIS G-242

Trans. of German patent application D 24 933 (39 c, 25/01) DAS 1 070 826, by Dow Chemical Co., Midland, Mich. (U. S. A.) filed 10 Dec 59, pub. 10 Dec 59 (priority, U. S. A. 17 Feb 56).

PROCESS FOR THE PREPARATION OF CONDENSATION PRODUCTS. [1961] 6p.
Order from RIS $9.00 RIS U-142

Trans. of German patent application F 23 041 (IVb/39 c) DAS 1 048 411, by Farbenfabriken Bayer A. G., filed 16 May 57, pub. 8 Jan 59.

Andrianov, K. A.
INNOVATIONS IN THE AREA OF SYNTHESIS OF HETEROCHAIN HETEROORGANIC POLYMERS. [1960] 30p.
Order from ATS $39.95 ATS-47M46R

Trans. of Uspekhi Khim[ii] (USSR) 1957, v. 26, no. 8, p. 895-922.
Another translation is available from LC or SLA mi$3.30, ph$7.80 as 60-17442, RTS-524, Nov 58 [44]p.

Andrianov, K. A. and Novikov, V. M.
POLY-(BUTYL METHYLPHOSPHONO-ALUMINOXANES). [1960] 6p.
Order from ATS $10.30 ATS-48M46R

Trans. of Vysokomolekulyarnyye Soyedineniya (USSR) 1959, v. 1, no. 9, p. 1390-1395.

Andrianov, K. A. and Asnovich, Ye. Z.
POLYTITANOMETHYLSILOXANES AND POLYTITANOETHYLSILOXANES. [1960] 6p.
Order from ATS $8.45 ATS-44M46R

Trans. of Vysokomolekulyarnyye Soyedineniya (USSR) 1960, v. 2, no. 1, p. 136-140.

Ashby, C. E., Foster, S. P., and Pieski, E. T.
NEW POLYOLEFIN COMPOSITIONS. [1961] 21p. 1 ref.
Order from RIS $45.00 RIS G-258

Trans. of Belgian patent 581218 by E. I. duPont de Nemours & Co. Inc., 30 July, 1959, (Priority: U. S. A., 30 July 58).

Baturo, V. A. and Rakovskiy, V. Ye.
CHEMISTRY OF PEAR-FORMING MATERIALS. I. CONDITIONS OF HYDROLYSIS AND YIELD OF HUMIC ACIDS (Khimiya Torfoobrazovateley. I. Usloviya Gidroliza i Vykhod Guminovykh Kislot). Sep 60 [17]p. 8 refs. RTS 1399.
Order from LC or SLA mi$2.40, ph$3.30 61-13217

Trans. of Akademiya Navuk BSSR [Minsk]. Instytut Torfa. Trudy, 1957, v. 6, p. 38-51.

The effect of varying acid concentration and time upon composition of materials hydrolysed by dilute HCl was studied. The best conditions were also sought for peat-forming material group-analysis, with minimum side reactions, especially humification. The materials studied by the Pest Institute method were Sphagnum medium, (Smolevich sector of Minsk area), Dicranum undulatum and D. bergeri (Rudensk sector of Minsk area). These were divided into upper (green) and lower (decayed) sections for separate examination. The yield of humic acids formed by condensation in the acid hydrolysis was influenced by (1) composition of peat-forming materials, (2) acid concentration and (3) acid reaction time at high temperature. Mild conditions (stepwise separation of water soluble and readily hydrolyzed groups) lower the humic acid yield. Stepwise hydrolysis gave the highest yield of readily hydrolysable products with minimum humic acid formation, however acid hydrolysis was impossible under conditions yielding no humic acids. Proximate analysis by acid hydrolysis of vegetable matter must be improved to prevent increasing the unhydrolysed residue yield with bitumens, readily hydrolysed carbohydrates, cellulosic and humic materials. (See also 60-23619)

Berezin, I. V. and Ragimova, A. M.
INTERMEDIATE REACTIONS OF KETONES IN LIQUID-PHASE OXIDATION OF OCTADECANE. [1960] 4p.
Order from ATS $8.00 ATS-12M45R

Trans. of Akad[emiya] Nauk Azerbaydzhan[skoy] SSR, [Baku]. Doklady, 1960, v. 16, no. 1, p. 19-22.

Berlin, A. A. and Matveyeva, N. G.
POLYMERIC CHELATE COMPOUNDS. [1960] 25p.
Order from ATS $27.95 ATS-92M46R

Trans. of *Uspekhi Khim[ii] (USSR) 1960, v. 29, no. 3, p. 277-297.

Chitani, T. and others.
STUDY OF THE EFFECT OF ALDEHYDE ON THE POLYMERIZATION OF VINYL ACETATE. [1960] 12p. 11 refs.
Order from SLA mi$2.40, ph$3.30 60-18402

Trans. of Kobunshi Kagaku (Japan) 1954 [v. 11, no. 112] p. 337-343.

Eydus, Ya. T. and Nefedov, B. K.
POLYMERIZATION OF ISOBUTYLENE. [1960] 34p.
Order from ATS $37.40 ATS-10M45R

Trans. of *Uspekhi Khim[ii] (USSR) 1960, v. 29, no. 7, p. 833-863.

Geermann, C. and Bestian, H.
ORGANOMETALLIC TITANIUM COMPOUNDS AS POLYMERIZATION CATALYSTS. [1960] 12p.
Order from ATS $14.80 ATS-96M45G

Trans. of Angew[andte] Chem[ie] (West Germany) 1959, v. 71, no. 19, p. 618-623.

Ivanova, T. [I.] Krentsel', B. A. and others.
POLYMERIZATION OF 3-METHYLBUTENE-1. [1960] 4p. 5 refs.
Order from LC or SLA mi$1.80, ph$1.80 61-10369

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1959, v. 129 [no. 4] p. 799-801.
Another translation is available from OTS $0.50 as 60-31238, JPRS-R-729-D, 31 May 60, 5p.

Kawasaki, A., Furukawa, J. and others.
INFRARED ABSORPTION SPECTRUM OF POLYBUTADIENE MONOXIDE. [1960] 6p.
Order from ATS $11.45 ATS-09M46J

Trans. of Kogyo Kagaku Zasshi (Japan) 1960, v. 63, no. 5, p. 868-871.

Korshak, V. V., Zamyatina, V. A. and others.
COPOLYMERIZATION OF BORON-SUBSTITUTED BORAZOLES WITH HEXAMETHYLENE DIISOCYANATE. [1960] 1p.
Order from ATS $1.50 ATS-49M46R

Trans. of Vysokomolekularnyye Soyedineniya (USSR) 1960, v. 2, no. 8, p. 1287.

Levisalles, Jacques.
THE BOAT FORM IN THE EQUILIBRIUMS AND REACTIONS OF THE HEXATOMIC RINGS. [1960] [27]p. (2 figs. 7 tables, 83 diagrs. 97 refs. omitted).
Order from SLA mi$2.70, ph$4.80 61-10386

Trans. of Soc[iété] Chim[ique de] France. Bull[etin] 1960, no. 3, p. 551-562.

Data are presented showing that the boat form of cyclohexane permits a number of reactions of the steroids, the terpenes and the sugars to be explained.

Lomenie, G. Beau de, Armengaud, Andre, and Houssard, G.
SOLUTIONS OF NITROGENOUS LINEAR CONDENSATION POLYMERS AND THEIR PREPARATION. [1961] [13]p. 8 refs.
Order from RIS $18.00 RIS C-130

Trans. of French patent 1.199.461, cl. C 08 g, by E. I. duPont de Nemours & Co., U. S. A., appl. 27 Feb 58, 1:09 p.m., Paris, gr. 22 June 59, pub. 14 Dec 59 (appl. filed in U. S. A. 27 Mar 57 in the name of Lawrence Forwood Beste and Curtis Wayne Stephens).

Matsumoto, Shoichi.
A THEORETICAL CONSIDERATION OF THE DEGRADATION OF LONG CHAIN MOLECULES. [1960] 16p. (2 figs. omitted) 18 refs.
Order from SLA mi$2.40, ph$3.30 60-18905

Trans. of unidentified Japanese (?) mono.

Viscosity equation for the degradation product of homogeneous polymer: The equation $(1/m) = (1/s^{n+1})\{(s+2)(n+1, s)! - (n+2, s)!\} + e^{-s}$ relates the cleavage number s and the viscosity index m, and applies to materials which follow the viscosity equation $\eta = KP^n$ of Sakurada. The molecular weight distribution of the degradation product of nonhomogeneous material: When the distribution function of initial material is given by Schulz's equation $mp = (-\ln \beta)^2 P \beta^P$, the distribution of the degradation product will be given by $mp = [\alpha + (-\ln \beta)]^2 P [\alpha + (-\ln \beta)]^P$, where α is the degradation probability and β is the cleavage probability.

Mazzanti, G., Valvassori, A., and Pajaro, G.
THE COPOLYMERIZATION OF ETHYLENE WITH ALIPHATIC ALPHA-OLEFINS. II. ETHYLENE AND PROPYLENE REACTIVITY RATIOS IN COPOLYMERIZATION WITH CATALYSTS DERIVED FROM VANADIUM OXYCHLORIDE AND ALKYL ALUMINUM (Copolimerizzazione dell'etilene con le Alpha-Olefine Alifatiche. Nota II. Rapporti di reattivita dell'etilene e Propilene nella Copolimerizzazione in Prensenza di Catalizzatori Ottenuti da Ossicloruro di Vanadio e Alluminioalchili). [1960] [21]p. 19 refs.
Order from SLA mi$2.70, ph$4.80 61-10473

Trans. of la Chimica e l'Industria (Italy) 1957, v. 39, no. 9, p. 743-748.

The effect of the composition of the monomer mixture on the composition of the copolymers in the copolymerization of ethylene with propylene was investigated using $VOCl_3$ and $Al(C_6H_{13})_3$ catalysis. The reactivity ratios of ethylene and propylene were determined by applying the copolymerization equation of Alfrey and Goldfinger to the results obtained; these were 17.95 and 0.065, respectively. (See also 61-10476)

Mazzanti, G., Valvassori, A., and Pajaro, G.
THE COPOLYMERIZATION OF ETHYLENE WITH ALIPHATIC ALPHA-OLEFINS. III. ETHYLENE-PROPYLENE COPOLYMERIZATION WITH CATALYSTS DERIVED FROM VANADIUM TETRACHLORIDE (Copolimerizzazione dell'etilene con le α-Olefine Alifatiche. Nota III. Copolimerizzazione Etilene-Propilene con Catlizzatori Ottenuti da Tetracloruro di Vanadio). [1960] [26]p. 5 refs.
Order from SLA mi$2.70, ph$4.80 61-10475

Trans. of la Chimica e l'Industria (Italy) 1957, v. 39, no. 10, p. 825-831.
Another translation is available from RIS $24.00 as RIS-96963 [26 Dec 58] 23p.

Mironova, V. N. and Zharkov, V. V.
QUANTITATIVE DETERMINATION OF RESIDUAL MONOMER IN POLYSTYRENE BY MEANS OF ULTRAVIOLET ABSORPTION SPECTRA. [1960] 3p.
Order from ATS $5.00 ATS-36M46R

Trans. of Vysokomolekulyarnyye Soyedineniya (USSR) 1960, v. 2, no. 7, p. 1013-1014.

Natta, G., Mazzanti, G., and Longi, P.
ATACTIC AND STEREOBLOCK POLYMERS OF THE ALPHA-OLEFINS (Polimeri Atattici e Polimeri a Stereoblocchi delle Alfa-Olefine). [1960] [20]p. 14 refs.
Order from SLA mi$2.40, ph$3.30 61-10470

Trans. of la Chimica e l'Industria (Italy) 1958, v. 40, no. 3, p. 183-188.
Another translation is available from LC or SLA mi$2.40, ph$3.30 as 59-15515, [17]p. 15 refs.

Medvedyev, S. S., Abkin, A. D., and Khomikovskiy, P. M.
POLYMERIZATION OF ETHYLENE UNDER THE INFLUENCE OF GAMMA-RADIATION. Apr 60, 21p. 10 refs.
Order from OTS $0.75 AEC-tr-3894

Trans. of mono. Polimerizatsiya Etilena pod Vliyaniyem Gamma-Izluchenii, Warsaw, Sep 59.

Polymerization in solutions of heptane, cyclohexane, methanol, or acetone, was studied at 50 atm, 25°C, and a dosage rate of 98 r/sec. The reaction velocity was 10 to 15 times greater than the polymerization rate in gaseous phase at the same pressure. The polymer formed had a molecular weight of 20,000 to 40,000 and formed tetrachloralkanes in carbon tetrachloride solutions. The initial stages of gaseous polymerization occurred with increasing velocity and then at a constant velocity. The polymerization rate decreased in advanced stages. Average molecular weight and viscosity (η) increased with the extent of conversion. At 300 atm, 25°C and 72 r/sec, the average reaction velocity for 24-hr polymerization was 16.9 g/l hr and the maximum velocity was 20.5 g/l hr. The radiochemical yield was 4,300 and 6,500 molecules respectively of ethylene per 100 ev of absorbed energy. An increase in pressure from 100 to 300 atm, increased the polymer viscosity from 1 to 4 times during early stages. Polymerization velocity, under conditions of decreasing pressure, was proportional to the dosage rate to the 0.3 power. The radiochemical yield at 150 atm and 17 r/sec was 5,000 molecules of ethylene per 100 ev, and was inversely proportional to the dosage rate to the 0.7 power. Molecular weight of ethylene increased with decreased dosage rate. An increase in temperature from 25 to 50°C, at a 300-g/l concentration of ethylene, resulted in a slight increase in velocity and a large increase in molecular weight. The polyethylene obtained had a higher density (0.950 to 0.975 cc) and crystallinity than high-pressure polyethylene. Polyethylene having a tensile strength of 230 kg/sq cm and a relative elongation of 335 to 400% was obtained at 250 and 300 atm.

Natta, G., Mazzanti, G. and others.
COPOLYMERIZATION OF ETHYLENE WITH ALIPHATIC ALPHA-OLEFINS. I. PRELIMINARY STUDIES OF ETHYLENE-PROPYLENE COPOLYMERIZATION (Copolimerizzazione dell'etilene con le α-Olefine Alifatiche. Nota I. Studi Preliminari della Copolimerizzazione dell'etilene conil Propilene) [1960] [45]p. 21 refs.
Order from SLA mi$3.30, ph$7.80 61-10476

Trans. of la Chimica e l'Industria (Italy) 1957, v. 39, no. 9, p. 733-743.

Ethylene-Propylene copolymers are produced by polymerization of mixtures of the olefins with catalysts made from aluminum tri-n-hexyl and vanadium oxychloride. The products are true copolymers with rubbery properties characteristic of an unvulcanized elastomer. Polymers are separated by a complicated fractionation scheme involving acetone, ether, hexane and heptane. Composition of the copolymer is determined by use of radioactive ethylene and by infrared analysis of the polymer. (Author) (See also 59-12669, 61-10473)

Natta, G. and Crespi, G.
ELASTOMERIC PROPERTIES OF ETHYLENE-PROPYLENE COPOLYMERS (Proprieta Elastomeriche dei Copolimeri Etilene-Propilene). [1960] [13]p. 21 refs.
Order from SLA mi$2.40, ph$3.30 61-10459

Trans. of la Chimica e l'Industria (Italy) 1959, v. 41 [no. 2] p. 123-128.
Other translations are available from SLA mi$2.40, ph$3.30 as 59-15341 [1959] 17p. and as 59-15628 [1959] [12]p.

Alpha-olefins whose homopolymers have second-order transition temperatures below ambient temperature form copolymers with ethylene that have good elastic properties; the proportion of alpha-olefin is such as to inhibit the crystallization of the polyethylene chain lengths. Study of ethylene-propylene copolymers and comparison with polyhydrocarbon chains shows that the temperature of the minimum elastic yield falls between those of the two homopolymers. This temperature declines with increasing ethylene content in the copolymer. Even at higher temperatures, chain flexibility increases with increasing ethylene content. These properties indicate broad possibilities for using these copolymers as starting materials in the preparation of vulcanized rubbers by suitable cross-linking methods. (Synthesis processes of the copolymers herein considered are reported in 59-10989, 59-12592, 59-12669, 59-14424, 59-15120, and 59-15642.)

Natta, G., Pasquon, I., and others.
HETEROGENEOUS KINETICS OF THE POLYMERIZATION OF PROPYLENE INTO AN ISOTACTIC POLYMER IN THE PRESENCE OF HETEROGENEOUS CATALYSTS OF HIGH STEREOSPECIFICITY IV. INFLUENCE OF TEMPERATURE AND PRESSURE ON THE KINETICS OF POLYMERIC CHAIN GROWTH. [1960] [30]p. 7 refs.
Order from SLA mi$2.70, ph$4.80 61-10472

Trans. of la Chimica e l'Industria (Italy) 1958, v. 40 [no. 2] p. 103-111.
Another translation is available from SLA mi$2.70, ph$4.80 as 59-20710 [1959] 21p.

It is shown that, in the polymerization of propylene in the presence of a limited amount of stereospecific catalyst, the predominant process of chain scission in its growth is a process of the first order with respect to the concentration of the monomer equivalent to a transfer of the reaction chain towards a molecule of the same monomer. By operating at low partial pressures of propylene one is able to show the existence of a chain scission process independent of the concentrations of the monomer and catalyst. The effect of this process on the diminution of the molecular weights is very limited below 80°C. Individual mechanisms of various processes, identified as growth, transfer and scission (four different types) processes are discussed that concern the total process of polymerization. (Author) (See also 61-10469)

Natta, G., Mazzanti, G. and others.
THE INFLUENCE OF HYDROGEN ON THE ANIONIC COORDINATE POLYMERIZATION OF PROPYLENE AND OF ETHYLENE. [1960] [35]p. 17 refs.
Order from SLA mi$3.00, ph$6.30 61-10464

Trans. of la Chimica e l'Industria (Italy) 1959, v. 41, no. 6, p. 519-526.
Other translations are available from SLA mi$2.40, ph$3.30 as 60-16908 [1960] [18]p. and as 60-10598, [1959] [20]p.

The influence of hydrogen on the molecular weight and on the speed of polymerization, in polymerizations of ethylene and propylene with catalysts prepared from aluminum tri-ethyl and alpha titanium trichloride is described. Under favorable experimental conditions the molecular weight can be regulated within rather wide limits without inducing undesirable secondary effects, such as hydrogenation of the monomer or marked diminution in stereospecificity. The nature of the end groups, and the overall polymerization rate, are in accord with a kinetic interpretation according to which the hydrogen can bring about a hydrogenation of the bonds existing between catalyst and growing polymer chain. The metal hydride bonds which are thus formed can then promote the polymerization of the polymer only after the addition of a molecule of this latter, and the formation of an alkyl-metal bond. The reduced speed of such an addition, with respect to the subsequent propagation process, takes into account the diminution of the polymerization rate encountered when operating in the presence of hydrogen. (Author)

Natta, G., Pasquon, I., and Giachetti, E.
KINETICS OF PROPYLENE POLYMERIZATION WITH HIGHLY STEREOSPECIFIC HETEROGENEOUS CATALYSTS. I. OVER-ALL KINETICS OF THE POLYMERISATION PROCESS (Cinetica della Polimerizzazione del Propilene con Catalizzatori Eterogenei ad Elevata Stereospecificita. Nota I. Cinetica Globale del Processo di Polimerizzazione). [1960] [28]p. 28 refs.
Order from SLA mi$2.70, ph$4.80 61-10477

Trans. of la Chimica e l'Industria (Italy) 1957, v. 39, no. 12, p. 993-1001.
Another translation is available from SLA mi$2.40, ph$3.30 as 59-15512 [1959] [20]p.

Natta, G., Pasquon, I., and Giachetti, E.
KINETICS OF PROPYLENE POLYMERIZATION WITH HIGHLY STEREOSPECIFIC HETEROGENEOUS CATALYSTS. II. NATURE OF ADJUSTMENT OF INCREASING POLYMERIZATION RATE (Cinetica della Polimerizzazione del Propilene con Catalizzatori Eterogenei ad Elevata Stereospecificita. Note II. Natura del Periodo di Assestamento). [1960] [34]p. 6 refs.
Order from SLA mi$3.00, ph$6.30 61-10478

Trans. of la Chimica e l'Industria (Italy) 1957, v. 39, no. 12, p. 1002-1012.
Another translation is available from SLA mi$2.40, ph$3.30 as 59-15513 [1959] [21]p.

Natta, G., Pasquon, I., and Giachetti, E.
KINETICS OF PROPYLENE POLYMERIZATION WITH HIGHLY STEREOSPECIFIC HETEROGENEOUS CATALYSTS. III. CHAIN SCISSION PROCESSES DEPENDING ON CATALYST CONCENTRATION. [1960] [23]p. 7 refs.
Order from SLA mi$2.70, ph$4.80 61-10469

Trans. of la Chimica e l'Industria (Italy) 1958, v. 40, no. 2, p. 97-103.
Another translation is available from SLA mi$2.40, ph$3.30 as 59-20711 [1959] 18p.

Recent experiments for the production of isotactic polymers by means of coordinated anionic catalysts are reported. At constant pressures ($P_{C_3H_6}$ 950mmHg) and temperatures (70°C), the molecular weight of the isotactic polypropylene obtained in the presence of catalysts prepared from titanium trichloride (violet modification) and from trialkyl aluminum, diminishes with the increase in the relative quantity of each of these compounds with respect to the solvent. The diminution in molecular weight is attributed to processes which shortstop the growing chain and are dependent on the concentration in solution of organometallic compounds and of complexes which contain titanium. Other chain rupture processes are revealed which are independent of such concentrations and have in general an outstanding effect with respect to those indicated above. All the processes for terminating the polymeric chain which we encountered proved kinetically to be equivalent to chain transfer reactions. In the field investigated, the molecular weights and the stereoisomeric composition of the polymers obtained are independent of the duration of polymerization. (See also 59-15512, 59-15513)

Natta, G., Pasquon, I. and others.
KINETICS OF PROPYLENE POLYMERIZATION WITH HIGHLY STEREOSPECIFIC HETEROGENEOUS CATALYSTS. V. STUDY OF CHAIN TRANSFER PROCESSES BY THE USE OF C^{14} LABELED ALKYL ALUMINUMS. [1960] [28]p. 11 refs.
Order from SLA mi$2.70, ph$4.80 61-10471

Trans. of la Chimica e l'Industria (Italy) 1958, v. 40 [no. 4] p. 267-273.

The use of triethyl aluminum labeled with C^{14} made it possible to demonstrate that in the polymerization of propylene in the presence of the $TiCl_3$ (violet modification)-$Al(C_2H_5)_3$-n-heptane catalytic system, a part of the polymeric chain growth scission processes, and in particular those depending upon the concentrations of each component of the catalyst, take place by an introduction of the C_2H_5-group formed from the $Al(C_2H_5)_3$ into the polymer. The orders of the rate of the polymeric chain rupture processes with respect to the affected variables were determined. A comparison between the results and those obtained previously through the study of variations of the molecular weights as a function of the different variables of polymerization confirmed the hypotheses as to the existence of two processes independent of the rupture of the chains, one depending upon the concentration of triethyl aluminum alone, the other depending upon the amount of titanium trichloride. (See also 61-10472)

Natta, G., Giachetti, E. and others.
REGULATION OF THE MOLECULAR WEIGHT OF ISOTACTIC POLYPROPYLENE WITH ALKYLZINC. [1961] 23p. 19 refs.
Order from RIS $35.00 RIS G-259

Trans. of Chim[ica] e l'Ind[ustria] (Italy) 1960, v. 42 [no. 10] p. 1091-1099.
Another translation is available from CTS(Chem) $24.00 as CTS(Chem)-178 [1960] 6000 words.

Natta, G. and Rigamonti, R.
STUDY OF SOME VINYL POLYMERS BY MEANS OF ELECTRON RAYS (Esame coi Raggi di Elettroni di Alcuni Polymeri Vinilica): [1960] [10]p. (figs. omitted) 8 refs.
Order from SLA mi$1.80, ph$1.80 61-10453

Trans. of Accad[emia Nazionale dei] Lincei. [Classe di Sci[enze Fisiche, Matematiche e Naturali. Rendiconti] (Italy) 1936 [ser. 6] v. 24, p. 381-388.

Ogata, Y. and Morikawa, M.
OXIDATION OF OLEFINS, ESPECIALLY THE RATE THEORY AND THE REACTION MECHANISM THEREOF. [1960] 29p.
Order from ATS $36.70 ATS-98M45J

Trans. of Kagaku no Ryoiki (Japan) 1960, v. 14, no. 6, p. 379-393.

Plate, A. F., Mel'nikov, A. A., and Ovezova, A. A.
OXIDATION OF OLEFINS WITH PERFORMIC ACID. [1960] 5p.
Order from ATS $6.00 ATS-94M43R

Trans. of *Zhur[nal] Obshchey Khim[ii] (USSR) 1960, v. 30, no. 4, p. 1256-1258.

Pudovik, A. N., Muratova, A. A. and others.
REACTIONS OF ESTERS OF ALKYLPHOSPHONIC ACIDS WITH HALOGEN COMPOUNDS. [1960] 7p.
Order from ATS $8.40 ATS-68M45R

Trans. of *Zhur[nal] Obshchey Khim[ii] (USSR) 1960, v. 30, no. 8, p. 2624-2630.

Regimbeau, P. and Boise, L.-A. de
LOW-TEMPERATURE METHOD OF PREPARING CRYSTALLINE VINYL POLYMERS. [1961] 10p.
Order from RIS $18.00 RIS C-131

Trans. of French patent 1.215.655, cl. c o8 f., patent application 775.263, by Kureha Kasei Co., Ltd., Japan, appl. 25 Sep 58, 2.57 p. m., Paris, gr. 23 Nov 59, pub. 20 Apr 60 (appl. filed in Japan, 26 Sep 57 in the name of the applicant).

Ruske, W.
TRIMERIC AND TETRAMERIC HYDROCYANIC ACID. [1960] 14p.
Order from ATS $16.40 ATS-80M45G

Trans. of Chem[ische] Tech[nik] (East Germany) 1954, v. 6, no. 9, p. 489-494.

Schulz, R. C.
NEW REACTIONS OF THE POLYACROLEINS. [1960] 10p.
Order from ATS $13.95 ATS-19M46G

Trans. of Kunststoffe (West Germany) 1959, v. 49, no. 6, p. 32-37.

Shone, T., Hyeno, K., and Hachihama, Y.
SYNTHESIS OF POLYESTERS CONTAINING FURAN RINGS. [1960] 11p. (4 figs. omitted) 11 refs.
Order from SLA mi$2.40, ph$3.30 60-18776

Trans. of Kogyo Kagaku Zasshi (Japan) 1960, v. 63 [no. 1] p. 176-178.

The dimethyl ester and the dichloride of 2,4- and 2,5-furandicarboxylic acid were treated with α, ω-glycols having 2 to 6 carbon atoms. The ester-exchange catalysts K_2CO_3, CeO_2, and PbO were used at 0.01% by weight of the dimethyl ester. Purified nitrogen was passed through the reaction mixture. Heating of the reactants was conducted at normal pressure at 160°C for 2 hr and at 180°C for 3 hr, and under pressures of 0.05 to 0.5 mm Hg at 180°C for 30 min and at 230°C for 1 hr. Polyesters containing furan rings derived from α, ω-glycols containing an odd number of carbon atoms had lower melting points than those derived from glycols having an even number of carbon atoms. Copolyesters containing furan and tetrahydrofuran rings were prepared from 2,5-furan-dicarboxylic acid, terephthalic acid, and ethylene glycol or 1,4-butane diol, and from tetrahydrofuran-dicarboxylic acid, ethylene glycol and terephthalic acid. The polyesters obtained, except those which had large tetrahydrofuran-dicarboxylic acid content, could be converted into filaments.

Smirnova, N. V., Sholdinov, A. P., and Kocheshkov, K. A.
PREPARATION OF COMPOUNDS OF THE TYPE OF TRIACYLNITROGEN (Polucheniye Soyedinenii Tipa Triatsilazota). Nov 60 [6]p. 12 refs. RTS 1708.
Order from LC or SLA mi$1.80, ph$1.80 61-15208

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1952, v. 84, no. 4, p. 737-740.

Stüpel, H.
LABORATORY LAUNDERING WITH SYNTHETIC DETERGENTS AND OTHER LAUNDERING AGENTS. II. RELATION BETWEEN DETERGENCY AND WATER HARDNESS. [1960] [8]p. 5 refs.
Order from SLA mi$1.80, ph$1.80 61-10296

Trans. of [Fette Seifen Anstrichmittel] (West Germany) 1952, v. 54, p. 321-324.

Synthetic detergent raw materials are influenced in a negative manner by hard water. The cleaning effect depends on the manner of soiling and the fabric tested. Nonionic detergents are subject to the negative effect of hard water as much as anionic compounds. Considerable differences in action exist between synthetic and natural water hardness. The relationship of Ca to Mg is more important than the degree of hardness itself. Magnesium salts thus may be considered for use as builders for synthetic detergents. (Author)

Tinyakova, Ye. I. and Zhuravleva, T. G.
THE MECHANISM OF DECOMPOSITION OF ISOPROPYLPHENYL HYDROPEROXIDE UNDER THE INFLUENCE OF SALTS OF METALS OF VARIABLE VALENCE [O Mekhanizme Raspada Gidroperekisi Izopropilbenzola pod Vliyaniyem Soley Metallov Peremennoy Valentnosti]. [1960] 8p.
Order from ATS $9.20 ATS-75M45R

Trans. of *Zhur[nal] Obshchey Khim[ii] (USSR) 1959, v. 29, no. 4, p. 1262-1269.

Topchiyev, A. V., Tolchinskiy, I. M. and Krentsel', B. A.
POSSIBILITY TO POLYMERIZE ETHYLENE TO POLYETHYLENE IN THE PRESENCE OF LITHIUM HYDRIDE, ALUMINUM HALIDE AND TITANIUM TETRACHLORIDE (O Vozmozhnosti Polimerizatsii Etilena v Polietilen v Prisutstvii Litiygidrida, Alyuminiygaloida i Chetyrekhkhloristogo Titana). [1960] 4p. 1 ref.
Order from LC or SLA mi$1.80, ph$1.80 61-10462

Trans. of *Akademiya Nauk SSSR. Otdeleniye Khimicheskikh Nauk. Izvestiya, 1958, no. 3, p. 375-376.

The possibility of preparing polyethylene in the presence of lithium hydride, aluminum halides and titanium tetrachloride has been demonstrated. The assumed mechanism of the reaction was outlined. The possibility of obtaining polypropylene by an analogous method has been shown. (Author)

Uchida, M. and Nagao, H.
INFLUENCE OF SUPPRESSOR ON THE EMULSION POLYMERIZATION OF ACRYLONITRILE. Pt. 21 of Studies on the Polymerization of Acrylonitrile. [1960] 22p. (13 figs. omitted) 10 refs.
Order from SLA mi$2.70, ph$4.80 60-18902

Trans. of Kogyo Kagaku Zasshi (Japan) 1957, v. 60 [no. 6] p. 768-773.

The influence of phenolic and nitro compounds in suppressing the oxidation-reduction emulsion polymeri-

zation of acrylonitrile was studied. Potassium persulfate and sodium bisulfite were used as oxidation-reduction reagents, and sodium lauryl sulfate was used as emulsifier. The rate and degree of polymerization were lowered by adding phenols. Their suppressing action increased in the order: resorcinol, phenol, hydroquinones, pyrogallol. Pyrogallol prevented polymerization even in the presence of catalyst. The apparent chain transfer constants for polymerization in the presence of these compounds were 1.4×10^{-3}, 3.2×10^{-3}, and 5.0×10^{-3}, and 2.0×10^{-3} respectively. The addition of nitro compounds had little effect on the rate and degree of polymerization. The apparent chain transfer constants for polymerization in the presence of nitrobenzene, m-dinitrobenzene and 2, 6-dinitrophenol were 3.0×10^{-3}, 3.0×10^{-3}, and 5.3×10^{-3} respectively. The addition of 0.02 to 0.05 N NaOH at pH 12 arrested the polymerization of acrylonitrile.

Physical Chemistry

PROCESS FOR PRODUCING ALKALI METAL DISULFITE. [1961] 3p.
Order from RIS $5.00 RIS C-133

Trans. of German patent application B 50 87½ (12i, 21) DAS 1 072 229, by Badische Anilin & Soda Fabrik A. G., filed 28 Oct 58, pub. 31 Dec 59.

Afanas'yev, P. B., Zel'dovich, Ya. B., and Todes, O. M.
SPATIAL DISTRIBUTION OF PRECIPITATES ON CRYSTALLIZATION OF MUTUALLY DIFFUSING SUBSTANCES (O Prostranstvennom Raspredelenii Osadkov pri Kristallizatsii Vzaimno Diffundiruyushchikh Veshchestv). 16 Dec 60, 33p. JPRS: 7260.
Order from OTS $1.00 61-11787

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1949 v. 23, no. 2, p. 156-179.

Amelin, A. G.
REGULATION OF DISPERSIBILITY OF LIQUID AEROSOLS OBTAINED BY THE CONDENSATION METHOD (Regulirovaniye Dispersnosti Zhidkikh Aerozoley Poluchayemykh Kondensatsionnym Metodom). 23 Sep 60, 20p. (7 figs. omitted) 3 refs. Trans. V-1614.
Order from LC or SLA mi$2.40, ph$3.30 61-13799

Trans. of mono. Aerozoli v Sel'skom Khozyaystve, Moscow, 1956, p. 15-27.

The effect of various factors on liquid aerosol dispersion was studied by the condenstaion method in a free stream. The possibility of regulating droplet mean diameter by changing the gas current velocity was experimentally proven. Calculation principles were extablished for liquid aerosol dispersion and for mixing glycerin vapors with atmospheric air. (Author)

Balandin, A. A. and Klabunovskiy, Ye. [I].
STEROCHEMICAL STUDY ON THE ACTIVE CENTERS OF A CATALYST [1960] 4p. 5 refs.
Order from LC or SLA mi$1.80, ph$1.80 61-10360

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1959, v. 129 [no. 1] p. 102-104.

Bubnov, N. N., Krasnovskiy, A. A. and others.
ELECTRON PARAMAGNETIC RESONANCE SPECTRA OBSERVED WHEN LEAVES OF PLANTS ARE ILLUMINATED, AND THE PHOTOREDUCTION REACTIONS OF CHLOROPHYLL AND ITS ANALOGUES [Spektriy Elektronnogo Paramagnitnogo Rezonansa Nablyudayemyye pri Osveshchenii List'yev Rasteniy i Reaktsii Fotovosstanovleniya Khlorofilla i Yego Analogov] tr. by Richard B. Mudge. [1960] 19p. (foreign text included) 13 refs.
Order from LC or SLA mi$2.40, ph$3.30
UCRL Trans-560

Trans. of *Biofizika (USSR) 1960, v. 5, no. 2, p. 121-126.

Bunė, N. Ya., Kolotyrkin, Ya. M., and Tyurikov, G. S.
THE ELECTROCHEMICAL AND CORROSION BEHAVIOUR OF STEEL AND NICKEL ELECTRODES IN SULPHURIC ACID SOLUTIONS SUBJECTED TO THE ACTION OF γ RAYS [Elektrokhimicheskoye i Korrozionnoye Povedeniye Stal'nogo i Nikelevogo Elektrodov v Rastvorakh Sernoy Kisloty, Podvergayushchikhsya Vozdeystviyu γ -Izlucheniya] tr. by R. W. Hummel. Apr 60, 11p. (5 figs. omitted) 8 refs. M1847.
Order from LC or SLA mi$2.40, ph$3.30 61-13171

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1958, v. 32, no. 12, p. 2679-2685.

The action of Co^{60} γ-rays on the electrochemical and corrosion behaviour of stainless steel (type 18-8) and nickel in 1 N H_2SO_4 was investigated. The influence of irradiation on the rate of solution depends on the ease of passivation of the metal. If the effective rate of reduction of the oxidising radiolysis components surpasses the value of the passivating current then the commencement of irradiation leads to a decrease in the rate of solution (stainless steel). In the contrary case an increase in the solution rate is observed (nickel). Potentiostatic curves obtained in the unirradiated solution and the value of the potential established on the electrode in the irradiation process can be used to estimate the rate of solution. In the presence of ferrous ions there occurs an increase in the effectiveness of the oxidising action of radiation. (Author)

Delimarskiy, Yu. K.
ELECTRODE POTENTIALS OF METALS IN MOLTEN SALTS (Elektrodnyye Potentsialy Metallov v Rasplavlennykh Solyakh). Nov 60 [28]p. 131 refs. RTS 1470.
Order from LC or SLA mi$2.70, ph$4.80 61-15215

Trans. of Uspekhi Khimii (USSR) 1957, v. 26, no. 4, p. 494-515.

information is surveyed on; (1) potentials of the decomposition of molten salts; (2) reversible reference electrodes for molten salts; (3) glass electrodes for molten salts; (4) the zero electrode in the electrochemistry of molten salts; (5) separate electrode potentials of metals in molten salts calculated by zero electrode method; (6) the electrochemical series of metals in molten salts; (7) electrode potentials and the chemical interaction between the constituents of a melt; and (8) the influence of the anion on the electrode potentials in molten salts.

Deygen, M. F.
OPTICAL PROPERTIES AND ELECTRICAL CONDUCTIVITY OF METAL-AMMONIA SOLUTIONS (Opticheskiye Svoystva i Elektroprovodnost Metall-ammiachnykh Rastvorov). Nov 60 [21]p. 16 refs.
Order from LC or SLA mi$2.70, ph$4.80 AEC-tr-4258

Trans. in manuscript of Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki (USSR) 1954, v. 26, p. 300-306.

The dependence of absorption spectra, electrical conductivity and its temperature coefficient as a function of metal concentration in metal-ammonia solutions is explained on the basis of local electronic centers (polarons, color centers and double color centers) in an ionic dielectric. The position of the maximum and the half width of the light absorption band is calculated assuming light absorption is due to polarons. (Author)

Dobychin, D. P. and Klibanova, Ts. M.
MODEL STUDY OF REGENERATION OF ALUMINOSILICATE CATALYSTS OF CRACKING. I. INVESTIGATION METHOD AND THE DISTRIBUTION OF COKE ON PARTICLES OF SPHERICAL ALUMINOSILICATE CATALYST (Model'noye Izucheniye Regeneratsii Alyumosilikatnykh Katalizatorov Krekinga. I. Metodika Issledovaniya i Raspredeleniye Koksa v Chastitse Sharikovogo Alyumosilikatnogo Katalizatora). [1960] 16p. 15 refs.
Order from LC or SLA mi$2.40, ph$3.30 61-10544

Trans. of Zh[urnal] Fiz[icheskoy] Khim[ii] (USSR) 1959, v. 33, no. 4, p. 869-876.
Another translation is available from ATS $17.35 as ATS-50L33R [1959] 9p.

Eydus, Ya. T., Pusitskiy, K. V., and Kazanskiy, B. A.
ETHYLENE POLYMERIZATION ON NICKEL OXIDE-SILICAGEL CATALYST, PROMOTED WITH ALUMINUM OXIDE. Pt. 4 of Catalytic Polymerization of Olefins. [1960] 7p. 9 refs.
Order from LC or SLA mi$1.80, ph$1.80 61-10372

Trans. of *Akad[emiya] Nauk SSSR. Otdel[eniye] Khim[icheskikh] Nauk. Izvest[iya] 1960, no. 1, p. 115-119.

See also 60-18440

Fedoseyeva [O. P.] Cherneva, Ye. P., and Tunitskiy, N. N.
STUDY OF THE KINETICS OF ION EXCHANGE SORPTION. II. THE KINETICS OF EXCHANGE WITH THE PARTICIPATION OF HYDROGEN IONS [Issledovaniye Kinetiki Ionoobmennoy Sorbtsii. II. Kinetika Obmena s Uchastiyen Vodorodnykh Ionov]. [1960] 8p. 7 refs. Warren Spring Lab. Trans. NT764; M2037.
Order from LC or SLA mi$1.80, ph$1.80 61-13398

Trans. of Zhurn[al] Fiz[icheskoy] Khim[ii] (USSR) 1959, v. 33, no. 4 [p. 936-942].

A study was made of the kinetics of complete exchange, in resins containing various quantities of divinyl benzene, between hydrogen ions and rubidium and sodium ions, and of a number of limiting cases of exchange: autodiffusion of sodium and rubidium ions and their diffusion in resins of various cationic structure. Complete exchange between hydrogen ions and sodium rubidium ions proceeds according to effective diffusion coefficients, which are greater than the diffusion coefficients of sodium and rubidium ion-microcomponents diffusing in the resin in the hydrogen form. The effective diffusion coefficients increase with a decline in the relative hydrogen ion content of the resin. This is explained by the abnormally high mobility of the hydrogen ions in the resin. The kinetics of the ion exchange through a cation exchanger membrane were investigated. The effective coefficients for diffusion of ions through the membrane increase with a fall in the relative content of hydrogen ions in the solution. (Author)

Fedoseyev, V. A., Kazhinskiy, B. B. and others.
ACTION OF ATOMIZED SOLUTIONS OF CALCIUM CHLORIDE ON AN AQUEOUS MIST (Vozdeystviye Raspylennykh Rastvorov Khloristogo Kal'tsiya na Vodnyy Tuman. Dec 53 [7]p. 6 refs. TIB/T4159; M 1648.
Order from LC or SLA mi$1.80, ph$1.80 60-19922

Trans. of *Kolloid[nyy] Zh[urnal] (USSR) 1952, v. 14, no. 4, p. 274-278.

Frumkin, A. and Levich, V.
THE INFLUENCE OF SUBSTANCES WHICH LOWER SURFACE TENSION ON MOVEMENT AT THE BOUNDARIES OF LIQUID MEDIA, tr. by A. F. L. Lassauzet. Oct 59, 32p. 16 refs. M1319.
Order from LC or SLA mi$3.00, ph$6.30 60-15831

Trans. of Zh[urnal] Fiz[icheskoy] Khim[ii] (USSR) 1947, v. 21 [no. 10] p. 1183-1204.
Another translation is available from ATS $26.50 as ATS-91L34R [1959] 25p.

Fur, Z. I.
RELAXATION MECHANISM OF PROPAGATION OF BURNING IN HETEROGENEOUS EXOTHERMIC SYSTEMS, II, tr. by Lydia Venters. Oct 60, 13p. 6 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-4301

Trans. of *Zhurnal Fizicheskoy Khimii (USSR) 1960, v. 34, no. 6, p. 1299-1306.

The proposed hypothesis (Zhur. Fiz. Khim. 34: 611-617, 1960; available in translation from OTS $0.50 as 61-11066) relating the velocity of propagation of burning with the heat transfer in the condensed phase and only indirectly accounting for the kinetics of the chemical reactions via the temperature of combustion T_{ig} and the temperature of the reaction products T_{in} made it possible to give a systematic explanation of the phenomena observed during the burning of some heterogeneous exothermal systems, including phenomena that did not lend themselves to interpretation by theories relating the velocity of propagation of burning only with chemical reaction kinetics. Calculations with the aid of the formulas obtained showed satisfactory agreement with experimental data. (Author)

Gerasenkova, A. N., Rusov, M. T., and Strel'tsov, O. A.
INFLUENCE OF REDUCTION CONDITIONS ON THE ACTIVITY OF A SMOOTH IRON CATALYST SURFACE USED IN AMMONIA SYNTHESIS. [1960] 4p. 7 refs. TL 1578; M2175.
Order from LC or SLA mi$1.80, ph$1.80 61-13670

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 96, no. 6, p. 1179-1181.

Gerasenkova, A. N., Rusov, M. T. and Strel'tsov, O. A.
KINETICS OF AMMONIA SYNTHESIS UNDER CONDITIONS FREE FROM DIFFUSION LIMITATIONS. [1960] 3p. 7 refs. TL 1576; M 2177.
Order from LC or SLA mi$1.80, ph$1.80 61-13672

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 96, no. 5, p. 1015-1016.

Gonikberg, M. G.
REGULAR SOLUTIONS OF GASES IN LIQUIDS. I. REGULAR SOLUTIONS OF HYDROGEN, tr. by E. Lyssenko. 28 Dec 60, 11p. 21 refs. Trans. no. 112-60.
Order from LC or SLA mi$2.40, ph$3.30 61-15355

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1940, v. 14, no. 4 [p. 582-588].
Another translation is available from LC or SLA mi$2.40, ph$3.30 as 59-10285 [1959] 13p.

Gorbatenko, A. K. and Kamenetskaya, D. S.
ON THE FORM OF EQUILIBRIUM CURVES OF BINARY ALLOYS, tr. by S. Klemantaski. [1960] 9p. 8 refs. Trans. no. 131; M 1940.
Order from LC or SLA mi$1.80, ph$1.80 61-13323

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1957, v. 31, no. 2, p. 481-484.

An analysis of the previously derived equations for the equilibrium curves of binary systems in approximation to regular solutions, is made for a number of particular cases. It is shown that the shape of the equilibrium curves is determined by the magnitude and the ratio of the mixing in the co-existing phases. The phase diagram of the system Au-Pt is calculated and it is shown that a slight increase in the mixing energy in this system changes the diagram from the monotonic type for amutual solubility in all proportions in liquid and solid states to one of the peritectic type. (Author)

Gorn, I. K. and Gorin, Yu. A.
THE EFFECT OF THE ANIONS OF SOLID CATALYSTS. Pt. 5 of Investigation in the Field of Vapor Phase Catalytic Hydration of Acetylene and its Derivatives [Issledovaniye v Oblasti Parofaznoy Kataliticheskoy Gidratatsii Assetilena i Yego Proizvodnykh V. O Vliyanii Anionov Tverdykh Katalizatorov]. [1960] 6p.
Order from ATS $9.00 ATS-15M45R

Trans. of Zhur[nal] Obshchey Khim[ii] (USSR) 1959, v. 29, no. 7, p. 2125-2129.
Also available from CB $5.00

Granovskaya, A. and Lubimov, A.
MEASUREMENT OF LOW VAPOR PRESSURES AT HIGH TEMPERATURES. I. VAPOR PRESSURE OF BISMUTH. [1960] 7p. (4 figs. omitted) 7 refs.
Order from LC or SLA mi$1.80, ph$1.80 61-10300

Trans. of [Zhurnal Fizicheskoy Khimii] (USSR) 1948, v. 22, no. 1, p. 103-106.

A method is described for the determination of vapor pressures of Bi with less than one milimeter of mercury pressure at temperatures from 400°C and higher.

Gromakov, S. D.
METHODS OF CALCULATION THE PROPERTIES OF TERNARY SYSTEMS FROM DATA FOR BINARY SYSTEMS, tr. by S. Klemantaski. [1960] 22p. 6 refs. Trans. no. 133; M2005.
Order from LC or SLA mi$2.70, ph$4.80 61-13367

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1956, v. 30, no. 11, p. 2373-2383.

An analysis of experimental data on ternary systems led to empirical equations which enable the calculation of the properties of ternary systems to be made from experimental data for binary systems. Some conditions limiting the application of the method have been defined. The proposed method of calculation is universal and equally applicable for approximate calculation of thermodynamic and non-thermodynamic properties of ternary systems.

Gromakov, S. D. and Gromakova, L. M.
SOME RULES FOR PLOTTING PHASE DIAGRAMS OF BINARY SYSTEMS, tr. by Lydia Venters. Oct 60, 16p. 17 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-4289

Trans. of Zhur[nal] Fiz[icheskoy] Khimii (USSR) 1953, v. 27, no. 10, p. 1545-1555.

The significance of the previously established rules (Zhur. Fiz. Khim. 24: 641, 1950 and 25: 1014, 1951) was outlined with respect to critical evaluation of the data in literature pertaining to the binary systems of meltability. Ten systems were experimentally tested. (Author)

Guerin, Henri.
MAGNESIUM ARSENATES. [1960] 2p. (footnotes 1-3 omitted).
Order from SLA mi$1.80, ph$1.80 61-10456

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1937, v. 204 [7 June] p. 1740-1741.

Ioffe, I. I., Levin, Ya. S., and Kronich, I. G.
INVESTIGATION ON KINETICS AND MECHANISM OF THE VAPOR PHASE OXIDATION OF AROMATIC HYDROCARBONS. VII. EFFECT OF STEAM ON THE THERMAL OXIDATION OF BENZENE BY MOLECULAR OXYGEN [Issledovaniya v Oblasti Kinetiki i Mekhanizma Parofaznogo Okisleniya Aromaticheskikh Uglevodorodov. VII. Vliyaniye Vodyanogo Para na Termicheskoye Okisleniye Benzola Molekulyarnym Koslorodom]. [1960] 7p. 6 refs.
Order from LC or SLA mi$1.80, ph$1.80 61-10408

Trans. of Zhur[nal] Fiz[icheskoy] Khimii (USSR) 1959, v. 33 [no. 4] p. 863-868.

The thermal oxidation of benzene by a mixture of oxygen and water vapor has been investigated. It has been shown that the latter exerts a specific effect on the course of the reaction, consisting in an increase in yield of phenol. A mechanism has been proposed for the action of water vapor which has been confirmed by comparison of the experimental and calculated values for yield of phenol during oxidation of benzene by mixtures of oxygen with nitrogen or with water vapor. (Author) (See also 59-22593)

Ipat'yev, V. V. and Tikhomirov, V. I.
DIFFUSION OF GASES UNDER PRESSURE (Diffuziya Gazov pod Davleniyem). [1960] 12p. (foreign text included).
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-4307

Trans. of [Zhurnal Obshchey Khimii] (USSR) 1931, v. 1, no. 6, p. 736-739.

Kalauch, C.
THE INFLUENCE OF THE SURFACE CHARGE OF MEMBRANES ON THE PROCESSES OF DIALYSIS AND ELECTRODIALYSIS. [1960] 9p.
Order from ATS $10.60 ATS-55M46G

Trans. of Kolloid-Z[eitschrift] (West Germany) 1949, v. 112, no. 1, p. 21-26.

Kandyba, V. V., Kantor, P. B. and others.
DETERMINATION OF ENTHALPY AND THERMAL CAPACITY OF BERILLIUM OXIDE IN THE TEMPERATURE RANGE FROM 1200-2820°K., tr. by Lydia Venters. Nov 60, 4p. 6 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-4310

Trans. of Ak[ademiya] Nauk [SSSR]. Dokl[ady] 1960, v. 131, no. 3, p. 566-567.

Experimental values obtained by the Kharkov Institute of the Bureau of Standards are tabulated for the enthalpy of BeO from 1142° to 2840°K. The enthalpy was determined up to 2334°K in Mo ampoules, and above 2334°K in W ampoules. Results are in good agreement with previous measurements. The melting point of BeO was 2820±9°K. (See also 59-15788)

Khalilov, Kh. M.
VISCOSITY AND STRUCTURAL CHARACTERISTICS OF LIQUIDS. [1960] 5p.
Order from ATS $7.50 ATS-63M46R

Trans. of Akad[emiya] Nauk Azerbaydzhan[skoy] SSR [Baku]. Izvest[iya]. Ser[iya] Fiz[iko]-mat[ematicheskikh] i Tekh[nicheskikh] Nauk, 1959, no. 4, p. 43-47.

Kogan, Sh. M. and Sandomirskiy, V. B.
HEAT OF ADSORPTION IN THE ELECTRONIC CHEMICAL SORPTION THEORY, tr. by Lydia Venters. Oct 60, 8p. 7 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-4299

Trans. of Zh[urnal] Fiz[icheskoy] Khim[ii] (USSR) 1959, v. 33, no. 5, p. 1129-1133.

The experimentally measured differential heat of chemisorption is a mean value of differential heats related to different adsorption centers and different charge states of the adsorbed molecules. The differential heat of absorption of a charged molecule on the present adsorption center is dependent on the corresponding electron level read off from the Fermi level. The differential heat of adsorption q decreases with filling as a result of the long-range Coulomb interaction among the charged adsorbed molecules. The calculation scheme of the dependence q on filling is described. The dependence on the surface potential is obtained, which may be tested experimentally. (Author)

Lebedev, I. A., Pirozhkov, S. V. and others.
STUDY OF THE COMPLEX-FORMATION OF AM^{+3} WITH OXALATE IONS, tr. by Thomas K. Keenan and Helen J. Chick. [1960] 15p. 13 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-4239

Trans. of Radiokhimiya (USSR) 1960 [v. 2] no. 3, p. 351-356.

The composition of americium oxalate, $Am_2(C_2O_4)\cdot 9H_2O$ was determined. From the solubility of americium oxalate in perchloric acid, the calculated solubility product was 2.2×10^{-31}. The solubility of americium oxalate in solutions of varying activity of oxalate (from 9×10^{-7} to 5×10^{-2}) was studies. From analysis of the solubility curves, the existence of the complex ions $AmC_2O_4^{+1}$, $Am(C_2O_4)_2^{-1}$ and $Am(C_2O_4)_3^{-3}$ was established and the instability constants were, respectively, 5.0×10^{-8}, 6.9×10^{-5} and 1.6×10^{-1}. The existence of complex oxalate ions of trivalent lanthanides and actinides with more than three ligands was considered. (Author)

Lebedev, S. A., Usenko, V. F., and Shvidler, M.I.
TRANSITION OF FLOW FROM THE SINGLE-PHASE TO THE TWO-PHASE STATE [O Fil'tratsii Potoka, Perekhodyashchego iz Odnofaznogo Sostoyaniya v Dvukhfaznoye] [1960] 7p.
Order from ATS $8.95 ATS-21M46R

Trans. of Akad[emiya] Nauk SSSR. Otdel[eniye] Tekh[nicheskikh] Nauk. Izvestiya, 1958, no. 7, p 56-60.

Levich, V.
THEORY OF DIFFUSIONAL KINETICS OF HETEROGENEOUS CHEMICAL PROCESSES. III. REACTIONS TAKING PLACE AT THE LIQUID/GAS INTERFACE. Jan 53, 16p. 3 refs. A.E.R.E. Trans. 11/3/5/273; M1662.
Order from LC or SLA mi$2.40, ph$3.30 61-13506

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1948, v. 22, no. 6, p. 721-729.

Milovskaya, Ye. [B.] Yerusalimskiy, B. L., and Dolgoplosk, B. A.
REACTIONS OF FREE RADICALS; INTERACTION OF FREE RADICALS WITH INTERNAL AND EXTERNAL DOUBLE BONDS [Reaktsii Svobodnykh Radikalov v Rastvorakh; Vzaimodeystviye Svobodnykh Radikalov s Vnutrennimi i Vneshnimi Dvoynmi Svyazyami]. [1960] 4p. 4 refs.
Order from LC or SLA mi$1.80, ph$1.80 61-10355

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1958, v. 120 [no. 2] p. 336-338.

Nikolayev, N. S.
INVESTIGATION OF THE HF-WO_3-H_2O SYSTEM. [1960] 11p. 15 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-4210

Trans. of Khim[iya] Redkikh Elementov (USSR) 1954, v. 1, p. 45-51.

The HF-WO_3-H_2O system was investigated by the isothermal solubility method between 0 and 100% HF at 25°. Two transformations of tungstic acid were detected: the dehydration and the formation of WF_6. The latter transformation was accompanied by the formation of tungsten hexafluoride which is insoluble in hydrogen fluoride. (Author)

Plaksin, I. N., Val'ter, A. K., and Gol'din, M. L.
DEVELOPMENT OF METHODS OF MEASURING THE DENSITY OF SUSPENSIONS (Razvitiye Metodov Izmereniya Plotnosti Pul'py). Nov 60 [9]p. 24 refs. RTS 1629.
Order from LC or SLA mi$1.80, ph$1.80 61-15221

Trans. of Tsvetnyye Metally (USSR) 1959, v. 32, no. 5, p. 16-22.

A literature survey shows that, the contact methods for measuring density, the hydrostatic method is now most widely used; it is based on the piezometric principle. Piezometric instruments are satisfactory for the measurement of density in suspensions of low specific gravity (up to 1.4 kg/litre). The method which gives the most satisfactory results and has the greatest development potential is the contactless method, which is based on the relationship between the rate of absorption of gamma-radiation and the density of the suspension; it is therefore free from the disadvantages inherent in the contact methods. Compensated ionization chambers make the most suitable detector, since the system in which the suspension density is measured is inertial; the ionization chambers work in conjunction with an ac amplifier, are very stable and give the requisite degree of sensitivity.

Pakhomova, G. N.
A SURVEY OF THE PRESENT STATE OF ZINC ELECTROLYSIS. [1960].
Order from PS $19.80 PS CR-2826

Trans. of Tsvetnyye Metally (USSR) 1958 [v. 31] no. 4, p. 16-28.

Plyushchev, V. Ye. and Kovolov, F. V.
INVESTIGATION OF THE REACTIONS OF ALKALI CHLORIDES AND OF ALKALINE EARTH ELEMENTS IN MELTS. IV. TERNARY SYSTEM CONSISTING OF LITHIUM CHLORIDES, POTASSIUM AND CALCIUM (Issledovaniye Vzaimodeystviya Khloridov Shchelochnykh i Shchelochnozemel'nykh Elementov v Rasplavakh. IV. Troynaya Sistema iz Khloridov Litya, Kalya i Kal'tsya) tr. by Marcel I. Weinreich. 20 Sep 60, 14p. 19 refs.
Order from LC or SLA mi$2.40, ph$3.30 SCL-T-338

Trans. of Zhurnal Neorganicheskoy Khimii (USSR) 1956, v. 1, no. 5, p. 1013-1018.

The interaction between the chlorides of lithium, potassium and calcium in melts was investigated by the visual-polythermal method. Isotherms were constructed on the surface of the liquidus of the LiCl-KCl-$CaCl_2$ system. The existence in the system, of four areas of primary crystallization (LiCl, KCl, $CaCl_2$, and the double compound KCl·$CaCl_2$) was established. Two ternary eutectics crystallize at 425° (E_1) and at 340° (E_2); they have their correspondence in the following compositions (compounds): E_1 - LiCl - 54.5% mol, KCl - 14.5% mol and $CaCl_2$ - 31% mol; E_2 - LiCl - 50.9% mol, KCl - 43.3% mol and $CaCl_2$ - 5.8% mol. (Author)

Prokhorov, F. G. and Kurskaya, T. A.
THE OPTIMUM CONDITIONS FOR REGENERATING H-CATIONITE FILTERS WITH DIFFERENT CATIONITES (Optimal'nyye Usloviya Regeneratsii H-kationitovykh Fil'trov s Raznymi Kationitami). Nov 60 [15]p. RTS 1542.
Order from LC or SLA mi$2.40, ph$3.30 61-15237

Trans. of Teploenergetika (USSR) 1958 [v. 5] no. 10, p. 35-42.

The present article, which is based on laboratory investigations, states the relations between the exchange capacity of a thiocarbon and cationites KU-1 and KU-2, and the nature of the regenerating acid, its

specific consumption and concentration. On the basis of this material we recommend the most economical mode of regenerating H-cationite filters used in industrial desalinisation plants. (Author)

Putseyko, Ye. K.
PHOTOCONDUCTIVITY KINETICS OF PHTHALOCYANINS. [1960] 9p. 12 refs.
Order from LC or SLA mi$1.80, ph$1.80
UCRL Trans-624

Trans. of Akademiya Nauk SSSR. Doklady, 1960, v. 132, no. 6, p. 1299-1302.

A study was made of the first stages of the photoconductivity relaxation of high-vacuum-sublimated layers (from 0.1μ to several microns thick) of metal-free and Cu- and Mg-containing phthalocyanin deposited on quartz or mica surfaces with Pt or Au electrodes. The taumeter method of N. A. Tolstoy et al. (Uspekhi Fiz. Nauk 41: 44, 1950) permitted the simultaneous observance on a CRO of the entire process of growth and fall-off of the photocurrent. In most cases the growth curves were unsymmetrical and nonexponential. Fall-off follows the hyperbolic law, which suggests the bimolecular process of recombination. A dependence of relaxation on the intensiveness of illumination in the presence of oxygen was apparently caused by the localization of electrons at adhesion levels which increased the length of recombination processes.

Rabinovich, B. V. and Sevumyan, Yu. R.
AUTOMATIC CONTROL OF CURRENT SUPPLY FOR ALUMINUM AND ZINC INDUSTRIAL ELECTROLYTIC CELLS (Avtomaticheskoye Regulirovaniye Toka Serii Elektroliza v Alyuminiyevoy i Tsinkovoy Promyshlennosti). Nov 60, 5p. RTS 1575.
Order from LC or SLA mi$1.80, ph$1.80 61-15204

Trans. of Tsvetnyye Metally (USSR) 1958, v. 31, no. 6, p. 30-33.

Two types of adjusters are described for automatic control of electrolysis current: the "ARTS-1010", a group automatic current regulator for electrolytic cells, and the "ARTV-1005 m", a separate regulator for mercury-arc rectifiers. The regulators secure the maintenance of an assigned current with an accuracy of ± 1%.

Rakoch, G. M., Chernogrebel', N. I., and Molchanov, F. G.
APPLICATION OF COLD WELDING IN THE MANUFACTURE OF CATHODES FOR THE ELECTROLYSIS OF ZINC SULPHATE SOLUTIONS (Primeneniye Metoda Kholodnoy Svarki pri Izgotovlenii Katodov dlya Elektroliza Rastvora Sul'fata Tsinka). Nov 60 [8]p. 2 refs. RTS 1576.
Order from LC or SLA mi$1.80, ph$1.80 61-15205

Trans. of Tsvetnyye Metally (USSR) 1958, v. 31, no. 7, p. 85-87.

A considerable decrease of contact resistance, and hence of electric energy consumption in electrolysis, is obtained by joining the grooved contact to the aluminium cathode bar by cold welding. The method suggested for making the contact is simple, ensures the required mechanical strength and does away with the considerable work input involved in making bolt contacts, and avoids the necessity for assembly and systematic inspection of the contacts. An editorial estimate puts the annual savings in electrical energy due to the introduction of cold welding of contacts at the Chelyabinsk Zinc Works at about 300,000 to 600,000 kw.-hr.

Romankevich, M. Ya., Shaposhnikova, Z. B., and Polyakova, V. M.
PRODUCTION OF HOMOGENEOUS ANION-EXCHANGE MEMBRANES (Polucheniye Gomogennykh Aniomoobmennykh Membran). Nov 60 [5]p. 6 refs. RTS 1557.
Order from LC or SLA mi$1.80, ph$1.80 61-15217

Trans. of Ukrainskiy Khimicheskiy Zhurnal (USSR) 1959, v. 25, no. 3, p. 392-394.

Homogeneous anion-exchange membranes were made from the product of condensing phenol and ethylene diamine hydrochloride with formaldehyde. The amount of water used in the reaction mixture affected the exchange rate but not the capacity. The capacity and tendency to swell increased with the proportion of ethylene diamine, but the strength of the membrane decreases.

Romanyuk, A. I.
THE INTERPOLAR DISTANCE AS A FACTOR INCREASING CURRENT YIELD. [1960].
Order from PS $8.60 PS CR-2876

Trans. of Tsvetnyye Metally (USSR) 1956 [v. 29] no. 7, p. 55-58.

Rozen, A. A.
INVESTIGATION OF THE PROCESS OF THERMAL DISSOCIATION OF MOLYBDENUM HEXACARBONYL. I. DEPENDENCE OF THE RATE OF THE HETEROGENEOUS PROCESS ON TEMPERATURE AND ACTIVATION ENERGY, tr. by Lydia Venters. Sep 60, 6p. 2 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-4286

Trans. of Ukrainskiy Khimicheskiy Zhurnal (USSR) 1959, v. 25, p. 735-738.

The dependence of the rate of the heterogeneous process of the thermal dissociation of molybdenum hexacarbonyl on temperature from 150° to 950°C was investigated. The maximum rate of the thermal dissociation on the surface was at 720° to 750°C; its presence may be explained by the decomposition in a gaseous phase. The maximum deposition rate of molybdenum on the surface within the investigated limits does not depend either on hydrogen pressure or concentration of carbonite. (Author)

Semenov, N. N.
THE MECHANISM OF THE OXIDATION OF SIMPLE HYDROCARBONS (Mecanisme de l'Oxydation des Hydrocarbures Simples). [1960] [17]p. 26 refs.
Order from SLA mi$2.40, ph$3.30 61-10467

Trans. of Chim[ie] et Ind[ustrie] (France) 1958, v. 79 [no. 1] p. 3-10.

The writer has investigated the oxidation of petroleum hydrocarbons. At low temperatures, photochemical reactions give hydroperoxides. These give aldehydes when the temperature rises. When higher hydrocarbons are oxidized, hydroperoxide radicals may be isomerized in two different ways, giving numerous intermediates. The thermal oxidation reaction can take place without any energy of activation, through the formation of active centers, which can develop most efficiently on the walls of the container. The initial reaction may be stimulated by means of active additives or of penetrating radiations. (Author). (Presented before 30th International Congress of Industrial Chemistry at Athens, Sept. 17-21, 1957.)

Semenov, N. N.
ON SOME BRANCHED CHAIN REACTIONS. Mar 51, 14p. M1668.
Order from LC or SLA mi$2.40, ph$3.30 61-13013

Trans. of Akad[emiya] Nauk SSSR. Otd[eleniye] Khim[icheskikh] Nauk. Izv[estiya] 1945, no. 3 [p. 210-222].

Sokolov, N. D.
THE HYDROGEN BOND (Vodorodnaya Svyaz'). Nov 60 [69]p. 176 refs. RTS 1488.
Order from LC or SLA mi$3.90, ph$10.80 61-15240

Trans. of Uspekhi Fizicheskikh Nauk (USSR) 1955, v. 57, no. 2, p. 205-278.

Contents:
Brief historical review
General
Simplest forms of hydrogen bond
Spectroscopic detection of hydrogen bonds (from vibrational spectra)
Inadequacy of the electrostatic explanation of hydrogen bonds
Quantum-mechanical treatment
Calculation of frequencies for AH groups involved in hydrogen bonds
Origin of the bond in the vibrational spectrum of a hydrogenbonded group
Other physical consequences of hydrogen bonds (electronic spectra. magnetic spectra)
The hydrogen bond and proton-transfer processes
References.

Tarama, K.
CATALYSTS FOR OXIDATION. [1960] 13p.
Order from ATS $24.75 ATS-00M46J

Trans. of Kogyo Kagaku Zasshi (Japan) 1960, v. 63, no. 5, p. 675-680.

Teverovskiy, Ye. N.
COAGULATION OF PARTICLES SUSPENDED IN THE TURBULENT FLOW (Koagulyatsiya Chastits Vzveshannykh v Turbulentnom Potoke). 28 Sep 60, 9p. 12 refs. Trans. V-1617.
Order from LC or SLA mi$1.80, ph$1.80 61-13801

Trans. of mono. Aerozoli v Sel'skom Khozyaystve, Moscow, 1956, p. 58-63.

A literature survey based on Soviet and non-Soviet sources.

Voskresenskaya, N. K. and Kashcheyev, G. N.
SOLUBILITY OF METAL OXIDES IN MOLTEN SALTS [Rastvorimost' Okislov Metallov v Rasplavlennykh Solyakh], tr. by C. B. Finch. 29 Aug 60, 27p. (foreign text included) 42 refs.
Order from LC or SLA mi$2.70, ph$4.80 AEC-tr-4233

Trans. of Akademiya Nauk SSSR. Sektor Fiziko-Khimicheskogo Analiza. Izvestiya, 1956, v. 27, p. 255-267.

The solubility of MgO, CaO, ZnO, Cr_2O_3, and CuO-Cu_2O mixtures in melts of LiCl, NaCl, KCl, Li_2SO_4, Na_2SO_4 and K_2SO_4 was studied by method of isothermal solution from 700°C to 1200°C. CaO has the greatest solubility. The solubility of the others in order of decreasing solubility is: CuO-Cu_2O, ZnO, MgO, and Cr_2O_3. The best solvents are the Li salts, the worst are the K. The sequence of oxides according to their solubility and of salts according to their ability to dissolve is determined by the ratio of the generalized momentum of the oxide cation to that of the solvent cation. The solubility is great depending on approach of this ratio to unity (except for MgO and ZnO). The connection between lattice energy and solubility was pointed out. The differences between chlorides and sulfates on one hand, and cryolite on the other as oxide solvents were discussed. (Author)

Yevstigneyev, V. B. and Gavrilova, V. A.
THE ABILITY OF ADSORBED CHLOROPHYLL TO SENSITIZE REDOX REACTIONS. [1960] [11]p. 18 refs.
Order from LC or SLA mi$2.40, ph$3.30 61-10345

Trans. of *Biofizika (USSR) 1960, v. 5, p. 599-608.

Zdanovskyy, A. B.
THE VELOCITY OF DISSOLUTION OF NaCl and KCl CRYSTALS [Skorosti Rastvoreniya Kristallov NaCl i KCl]. [1960] 9p. (3 figs. 4 tables omitted) T/L 733; M2074.
Order from LC or SLA mi$1.80, ph$1.80 61-13431

Trans. of Zh[urnal] Fiz[icheskoy] Khimii (USSR) 1946, v. 20, no. 4/5, p. 379-[386].
Another translation is available from Science Museum Library, London as 52/2944. Apply to UKSM, Washington, for details.

Zel'dovich, Ya.
ON THE PROPAGATION OF SHOCK WAVES IN GASES WITH REVERSIBLE CHEMICAL REACTIONS (O Rasprostranenii Udarnykh Voln v Gaze s Obratimymi Khimicheskimi Reaktsiyami). 19 Dec 60, 7p. 7 refs. JPRS: 7319.
Order from OTS $0.50 61-11818

Trans. of Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki (USSR) 1946, v. 16, no. 4, p. 365-368.

A reversible chemical reaction, or a delayed excitation of part of the heat capacity of the gas, caused a sharply pronounced expansion of the shock wave front. The structure of the front depends on the wave amplitude (on the ratio of the wave velocity to the maximum velocity of the sound). This effect is suggested as a means for studying the transfer of energy onto the internal degrees of freedom of molecules.

Zeldovich, Y. B.
THEORY OF THE PROPAGATION LIMIT OF QUIET FLAMES: EXCERPTS (Teoria Predela Rasprostraneniya Tikhogo Plameni), tr. by Marcel I. Weinreich. 25 Aug 60, 16p. 17 refs.
Order from LC or SLA mi$2.40, ph$3.30 SCL-T-331

Trans. of Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki (USSR) 1941, v. 11, no. 1, p. 159-165 and 169.

Contents:
Chap. 1. Elementary theory
Chap. 2. Comparison with other theories
Chap. 3. Applying the theory of similarity
Chap. 5. Conclusion

EARTH SCIENCES

Monin, A. S.
ON THE TRANSFORMATIONS OF ENERGY OF THE ZONAL CIRCULATION OF THE ATMOSPHERE (O Preobrazovaniyakh Energii Zonal'nôy Tsirkulyatsii Atmosfery). 3 July 59, 10p. (foreign text included) 1 ref. M1529.
Order from LC or SLA mi$1.80, ph$1.80 61-13574

Trans. of Akad[emiya] Nauk SSSR. Inst[itut] Fiz[iki] Atmos[fery]. Trudy, 1958, no. 2, p. 50-53.

Shcherbakov, D. I.
OCEANOGRAPHICAL CONGRESS IN THE UNITED STATES. [1960] 3p. M2273.
Order from LC or SLA mi$1.80, ph$1.80 61-13755

Trans. of Akademiya Nauk SSSR. Vestnik, 1959 [v. 29] no. 12, p. 57-60.

The principal topics are noted into which the papers can be grouped that were presented at the first International Oceanographical Congress held from August 30 to September 11 in the United Nations Organization building in New York.

Climatology and Meteorology

Arkhipova, Ye. P.
MAPS OF THE GEOGRAPHIC DISTRIBUTION OF THE NUMBER OF THUNDERSTORM DAYS IN THE USSR (Karty Geograficheskogo Raspredeleniya Chisla Dney s Grozoy na Territorii SSSR) tr. by Harold K. Gold. Oct 60 [27]p. 4 refs.
Order from LC or SLA mi$2.70, ph$4.80 61-13500

Trans. of Glavnaya Geofizicheskaya Observatoriya, Leningrad. Trudy (USSR) 1957, no. 74[136] p. 41-60.

Charts were prepared of the mean number of days with near or distant thunderstorms per year and for the four months of the warm period (May to August) during which thunderstorm activity is most pronounced. The charts were compiled chiefly according to the number of thunderstorm days in the data of the Climatic Handbooks of the USSR (Klimaticheskie Spravochniki SSSR). In the preparation of the maps of the number of days with thunderstorms, use was made of data from about 2100 meteorological stations with varying lengths of observational records within the period 1891-1948. As a rule, data from stations having at least 10 to 15 years of observation were used.

Borisova, L. G. and Dmitriyeva, Yu. N.
ANALOGY IN THE DISTRIBUTION OF THE ANOMALIES IN THE MEAN MONTHLY AIR TEMPERATURE FOR SEPTEMBER AND NOVEMBER. 11 Sep 59, 9p. (foreign text included) 4 refs. Trans. no. 15; M1533.
Order from LC or SLA mi$1.80, ph$1.80 61-13578

Trans. of Tsent[ral'nyy] Inst[itut] Progn[ozov] Moscow. Trudy (USSR) 1958, no. 71, p. 40-43.

To explain the existence of such a relation in the distribution of the anomaly of the mean monthly air temperature for September and November an analysis was made of the charts of the anomalies of the mean monthly air temperature for the months indicated, for the period 1901-1956.

Borisova, L. G.
CLIMATOLOGICAL RELATION OF SYNOPTIC PROCESSES, tr. by T. C. Marwick. 17 Nov 59, 19p. (2 tables, 4 figs. omitted) 8 refs. Trans. no. 25; M1475.
Order from LC or SLA mi$2.40, ph$3.30 61-13541

Trans. of Tsent[ral'nyy] Inst[itut] Progn[ozov] Moscow. Trudy (USSR) 1958, no. 71, p. 27-39.

The degree of analogy of the subsequent development of synoptic processes in every month of the year to the processes of the preceding months was determined

Borisova, Ye. I.
MEAN MONTHLY AIR-TEMPERATURE ANOMALY IN THE WINTER MONTHS OVER THE EUROPEAN TERRITORIES OF THE U.S.S.R. AND WESTERN SIBERIA IN CONNECTION WITH THE FEATURES OF SYNOPTIC PROCESSES. 15 Dec 59, 28p. (12 tables, 12 figs. omitted) Trans. no. 27; M1532.
Order from LC or SLA mi$2.70, ph$4.80 61-13577

Trans. of Tsent[ral'nyy] Inst[itut] Progn[ozov] Moscow. Trudy (USSR) 1958, no. 71, p. 48-77.

For the period from 1891 to 1956, 92 months were observed which were characterised by a significant anomaly of the mean monthly air temperature. Five groups of the distribution of the mean monthly air temperature anomaly were established. The first group is characterised by a significant positive anomaly of the mean monthly air temperature over almost all the territory considered. The second group comprises months with a significant negative air temperature anomaly over the greater part of the European territory of the USSR and Western Siberia. The third group is characterised by a centre of negative anomaly in the south of Western Siberia and in North Kazakhstan. To the fourth group belong the months in which the northern half of the territory is characterised by a positive anomaly and the southern half by a negative one. In the fifth group are gathered the months with a negative temperature anomaly in the north of the territory with a positive anomaly in the south. The distribution and sign of the mean monthly air-temperature anomaly change from one month to another. (Author)

Khrabrov, Yu. B.
SOME PROBLEMS IN TAKING ACCOUNT OF SOLAR ACTIVITY IN THE CONSTRUCTION OF MONTHLY WEATHER FORECASTS, tr. by T. C. Marwick. 12 Nov 59, 11p. (3 figs. omitted) 9 refs. Trans. no. 24; M1476.
Order from LC or SLA mi$2.40, ph$3.30 61-13542

Trans. of Tsent[ral'nyy] Inst[itut] Progn[ozov] Moscow Trudy (USSR) 1958, no. 71, p. 11-16.

Kozharin, V. S.
MOISTURE BALANCE IN A CLOUD (Balans Vlagi v Oblake) tr. by Irene A. Donehoo. Sep 60 [9]p. 11 refs.
Order from LC or SLA mi$1.80, ph$1.80 61-13501

Trans. of Meteorologiya i Gidrologiya (USSR) 1960, no. 6, p. 20-24.
Another translation is available from ATS $10.60 as ATS-60M45R [1960] 6p.

Kucherov, N. V.
CONCERNING THE ACCURACY OF AIR TEMPERATURE LAPSE RATE AND HUMIDITY GRADIENT MEASUREMENTS (O Tochnosti Gradyrnynykh Izmereniy Temperatury i Vlazhnosti) tr. by Irene A. Donehoo. Apr 60 [9]p.
Order from LC or SLA mi$1.80, ph$1.80 61-13816

Trans. of Glavnaya Geofizicheskaya Observatoriya, Leningrad. Trudy (USSR) 1956, no. 60(122) p. 86-91.

Experiments were made to determine (1) how many temperature and humidity readings must be made per hour or within other smaller intervals of time so that the error of the measurement is 0.1°C, or less, and (2) how many readings must be made simultaneously to assure such an accuracy. Results indicated that deviations in temperature measurements are caused, chiefly by a natural micro-oscillation of the temperature; a diminishing of the dispersions of the results may not be attained by increasing the degree of accuracy in the thermometer readings further to 0.03 to 0.05°C. A more accurate determination of the mean temperature may be obtained by increasing the inertia of the thermometer three to five times. The deviation of individual measurements from the mean temperature increases with the instability of the thermal stratification; for example, with a temperature lapse rate of 0.8°C/m, the value based on five to six readings per hour is equal to 0.10°C, and on nine to 10 readings per hour is equal to 0.06°C.

Nikitina, Ye. A.
ANALYSIS AND FORECASTING OF AIR TEMPERATURE ANOMALIES FOR THE SPRING MONTHS. tr. by T. C. Marwick. 11 Jan 60, 43p. (2 tables, 14 figs. omitted) 7 refs. Trans. no. 28; M1474.
Order from LC or SLA mi$3.30, ph$7.80 61-13540

Trans. of Tsent[ral'nyy] Inst[itut] Progn[ozov] Moscow. Trudy (USSR) 1958, no. 71, p. 78-113.

A study of synoptic charts from 1891 to 1950, contour charts of isobaric surfaces from 1938 to 1950, charts of the mean-monthly distribution of temperature and its deviations from normal, data on the air temperature transition through 0° and +5° from 1891 to 1951, and data on the disappearance of the stable snow cover from 1938 to 1949 showed a clear connection between the macro processes of a winter season and of the spring season immediately following it. (a) If, in the majority of the months in a winter season, typical macro processes take place, then they will usually prove typical in the majority of the spring months; (b) if macro processes different from the types are observed in winter, then most frequently they will be non-typical in the spring months. With the prevalence, in winter, of typical macro processes over the greater part of the European territory of the USSR, Western Siberia and Kazahstan, the mean monthly temperatures in spring, as a rule, will differ significantly from normal. With processed different from the typical ones the mean monthly air temperature in spring is usually near the normal.

Pogosyan, Kh. P.
ON SOME CHARACTERISTICS OF ATMOSPHERIC JET STREAMS (O Nekotorykh Osobennostiyakh Struynykh Techeniy v Atmosfere) tr. by Nina A. Stepanova. July 58 [24]p. 12 refs.
Order from LC or SLA mi$2.70, ph$4.80 61-15087

Trans. of [*Akademiya Nauk SSSR]. Izvestiya. Seriya Geofizicheskaya, 1958, no. 4, p. 515-526.

Data are presented on the vertical and horizontal extent of jet streams and on maximum wind speeds observed in systems of subtropical and extratropical jets

Conditions for jet stream formation and the location of jet axes are analyzed in relation to the temperature distribution. The problems of tropopause discontinuities observed in systems of subtropical jets and the location of jet streams in relation to the tropopause are discussed. Data on the temperature distribution in the 0-to 20-km layer along 45°E longitude are presented. (Author)

Sadokov, V. P. and Dobryshman, Ye. M.
CONCERNING THE SOLUTION OF THE EQUATION DESCRIBING PERTURBATIONS IN THE FIELD OF A GRADIENT WIND. 15 Sep 60, 16p. 4 refs. JPRS: 5207.
Order from OTS $0.50 60-41100

Trans. of Ts[entral'nyy] I[nstitut] P[rognozov, Moscow. Trudy (USSR) 1950] v. 43(70) p. 34-48.

Shishkov, V. G.
A METHOD OF CONSTRUCTING MONTHLY WEATHER FORECASTS BASED ON THE RECURRENCE OF SYNOPTIC SITUATIONS. 9 Sep 59, 26p. (foreign text included) 12 refs. Trans. no. 14; M1534.
Order from LC or SLA mi$2.70, ph$4.80 61-13579

Trans. of Tsent[ral'nyy] Inst[itut] Progn[ozov] Moscow. Trudy (USSR) 1958, no. 71, p. 17-26.

Smeter, S. M.
ON THE ACCURACY OF THE CALCULATIONS OF THE RICHARDSON NUMBERS FROM RADIO-WIND OBSERVATIONS. 27 Nov 59, 4p. (3 formulas, 3 tables omitted) Trans. no. 34; M1932.
Order from LC or SLA mi$1.80, ph$1.80 61-13316

Trans. of [Tsentral'naya] Aerol[ogicheskaya] Obs[ervatoriya]. Trudy (USSR) 1957, no. 22, p. 32-34.

Tsepkanova, Ye. I. and Ur'yeva, B. R.
FORECAST OF THE GENERAL CHARACTERISTICS OF THE WEATHER FOR A MONTH. 2 Sep 59, 19p. (foreign text included) 5 refs. Trans. no. 13; M1535.
Order from LC or SLA mi$2.40, ph$3.30 61-13580

Trans. of Tsent[ral'nyy] Inst[itut] Progn[ozov] Moscow. Trudy (USSR) 1958, no. 71, p. 3-10.

Turketti, Ye. L. and Yakusheva, O. M.
THE CONSTRUCTION OF FORECASTS OF THE PRESSURE FIELDS FOR 2-3 DAYS. 23 Sep 59, 51p. (foreign text included) 1 ref. Trans. no. 16; M1536.
Order from LC or SLA mi$3.60, ph$9.30 61-13581

Trans. of Tsent[ral'nyy] Inst[itut] Progn[ozov] Moscow. Trudy (USSR) 1958, no. 73, p. 73-93.

A method is described for calculating in advance the pressure field at the surface of the earth and the thermobarometric field of the troposphere after 2-3 days. (See also 60-19979)

Zak, Ye. G. and Federova, A. A.
SOME RESULTS OF RADIO-LOCATION OBSERVATIONS ON THE FORMATION AND DEVELOPMENT OF PRECIPITATION IN SHOWER CLOUDS.
7 Mar 60, 40p. (19 figs. omitted) Trans. no. 33; M1762.
Order from LC or SLA mi$3.00, ph$6.30 61-13093

Trans. of [Tsentral'naya] Aerol[ogicheskaya] Obs[ervatoriya]. Trudy (USSR) 1958, no. 19, p. 33-67.

The aim of these observations (by the Central Aerological Observatory in 1955-1957) was the study of the character of the radio-echo obtained from convection clouds, and the discovery of the features of the reflections connected with the development of shower clouds in different synoptic-aerological conditions. The observations were carried out with a "Cobalt" 3.2-cm radio-locator. (This radio-locator detects only those regions of clouds which contain large drops, approaching rain in their dimensions, and elements such as hail, granular and flaky snow.) With a total period of observation of 133 hours, 1796 radio location photographs were obtained, 166 radiosondes were sent up, 20 ascents of the captive balloon were made and the data of 88 aeroplane ascents in Vnukov were used.

Zaychikov, P. F.
RESULTS OF AEROLOGICAL OBSERVATIONS AT DRIFTING STATION S-4 (C-4) AT THE TIME OF THE 1949 EXPEDITION. [1959] 6p. (5 tables omitted) 1 ref. Trans. no. 37; M1936.
Order from LC or SLA mi$1.80, ph$1.80 61-13320

Trans. [Tsentral'naya] Aerol[ogicheskaya] Obs[ervatoriya]. Trudy (USSR) 1957, no. 22, p. 100-116.

The observations refer to the period from May 5 to 12, 1949, under conditions when the sun never set. A connection is revealed between the increase in the values of the vertical velocities of air movements and the increase, with height, of the wind velocity.

Geodesy

FIELD WORK CARRIED OUT BY THE MILITARY SCIENTIFIC SECTION, 2ND MILITARY TOPOGRAPHIC BRIGADE, IN 1925. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 4p. JPRS: R-104-N/17.
Order from OTS $0.50 61-11731

Trans. of Geodezist (USSR) 1926 [v. 2] 9/10, p. 66-69.

Adriyanov, I. V.
STANDARD GENERAL-PURPOSE STADIA ROD. Trans. on Soviet Geodesy 1925-40. 3 Jan 61, 8p. JPRS: R-113-N/21.
Order from OTS $0.50 61-11702

Trans. of Geodezist (USSR) 1935 [v. 11] no. 4, p. 57-62.

Adrianov, I. V.
WILD T-1 REPEATING THEODOLITE. Trans. on Soviet Geodesy 1925-40. 3 Jan 61, 11p. JPRS: R-113-N/22.
Order from OTS $0.50 61-11724

Trans. of Geodezist (USSR) 1935 [v. 11] no. 4, p. 62-70.

Akutin.
THE DETERMINATION OF RADIAL LINES ON PHOTOGRAPHS. Trans. on Soviet Geodesy 1925-40. 27 Dec 60, 3p. JPRS: R-108-N/84.
Order from OTS $0.50 61-11834

Trans. of Geodezist (USSR) 1930 [v. 6] no. 11, p. 67-69.

Antonov-Zeravshanskiy.
FINDING SPHERICAL CORRECTIONS FOR ZOLDNER COORDINATES. Trans. on Soviet Geodesy 1925-40. 3 Jan 61, 4p. 2 refs. JPRS: R-109-N/5.
Order from OTS $0.50 61-11690

Trans. of Geodezist (USSR) 1931 [v. 7] no. 1, p. 39-40.

B., N.
BASE-LINE MEASUREMENT AT SHUBIN. Trans. on Soviet Geodesy 1925-40. 27 Dec 60, 5p. JPRS: R-108-N/82.
Order from OTS $0.50 61-11820

Trans. of Geodezist (USSR) 1930 [v. 6] no. 11, p. 53-56.

Blokhin, N.
ERROR DUE TO AN INCLINED HORIZONTAL AXIS OF THE BAMBERG PORTABLE BROKEN-TELESCOPE TRANSIT. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 9p. JPRS: R-104-N/8.
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Trans. of Geodezist (USSR) 1926 [v. 2] no. 7/8, p. 2-8.

Borisov, N. D.
THE CHARACTERISTICS OF THE LINE OF SIGHT IN AN INTERNAL FOCUSING TELESCOPE. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 7p. 2 refs. JPRS: R-114-N/42.
Order from OTS $0.50 61-11705

Trans. of Geodezist (USSR) 1936 [v. 12] no. 7, p. 54-58.

Chebotarev, A.
CONCERNING THE ERROR OF CLOSURE OF A TRIGONOMETRIC TRAVERSE. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 6p. JPRS: R-104-N/9.
Order from OTS $0.50 61-11728
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Chebotarev, A. S.
ON THE SUBJECT OF THE THREE POINT PROBLEM. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 1p. JPRS: R-113-N/41.
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Drobyshev, D.
ACCURATE PHOTOMOSAICS. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 7p. JPRS: R-105-N/26.
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Drobyshev, F.
BAROMETRIC LEVELING BY AIRPLANE. Trans. on Soviet Geodesy 1925-40. 3 Jan 61, 3p. JPRS: R-109-N/60.
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Durnev, A.
TRIANGULATION IN UKK. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 10p. 2 refs. JPRS: R-110-N/5.
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Trans. of Geodezist (USSR) 1932 [v. 8] no. 2/3, p. 1-7.

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THE CHOICE OF JUNCTION LINES IN ADJUSTMENT OF TRANSIT SURVEY. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 5p. 1 ref. JPRS: R-114-N/20.
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Gan'shin, V. N.
DERIVATION OF FORMULA FOR THE AREA OF A POLYGON BY LENGTHS OF LINES AND BY ANGLES. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 2p. JPRS: R-113-N/46.
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THE ELEVATION CIRCLE. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 7p. 1 ref. JPRS: R-111-N/19.
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Kell', N. G.
FINDING CORRECTION TO COORDINATES WITH THE AID OF A GRID OF SIMILARITY. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 2p. JPRS: R-113-N/47.
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Trans. of Geodezist (USSR) 1935 [v. 11] no. 9, p. 46.

Komarevskiy, V.
HIGHER PRECISION OF ANGLE DETERMINATIONS WITH A ONE-MINUTE THEODOLITE. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 2p. JPRS: R-114-N/43.
Order from OTS $0.50 61-11805

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Kozhikov, I.
MAGNETOMETRIC INVESTIGATIONS WITH THE COMPASS. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 2p. JPRS: R-114-N/5.
Order from OTS $0.50 61-11803

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Kupchinov, I. I.
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Trans. of Geodezist (USSR) 1935 [v. 11] no. 5, p. 46-48.

Kurlin, D.
EFFECT OF GROUND RELIEF ON THE VERTICAL IMAGE OF POINTS OF A PHOTO MAP. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 8p. JPRS: R-112-N/31.
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Lizunov, S.
UNIFORM LETTER SYMBOLS IN GEODESY. Trans. on Soviet Geodesy 1925-40. 3 Jan 61, 4p. 1 ref. JPRS: R-109-N/9.
Order from OTS $0.50 61-11698

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Nazarov, N.
A NEW METHOD OF SOLVING THE TWO-POINT PROBLEM. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 2p. JPRS: R-113-N/44.
Order from OTS $0.50 61-11806

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Order from OTS $0.50 61-11817

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Selyakov, L.
FROM OUR EXPERIENCE WITH THE KAZAKHSTAN SURVEY. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 10p. JPRS: R-110-N/36.
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Shestakovskaya, G.
EXPERIMENT IN COMPILATION OF A MAP OF THE MURMANSKAYA OBLAST AT A SCALE OF 1:750,000. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 5p. JPRS: R-118-N/15.
Order from OTS $0.50 61-11809

Trans. of Geodezist (USSR) 1940 [v. 16] no. 5, p. 71-74.

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ADJUSTING TRIGONOMETRIC SYSTEMS. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 12p. JPRS: R-114-N/18.
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Slin'ko, D.
CONVERSION OF COORDINATES OF TRIANGULATION STATIONS FROM THE WALBECK SPHEROID TO THE BESSEL SPHEROID. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 5p. 2 refs. JPRS-R-111-N/41.
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Trans. of Geodezist (USSR) 1933 [v. 9] no. 9/10, p. 41-43.

Smirnov, K.
THE NEW PLANIMETER OF THE "GEOPHYSICS" PLANT OF THE PRECISION MECHANICS TRUST. Trans. on Soviet Geodesy 1925-40. 27 Dec 60, 6p. 3 refs. JPRS: R-108-N/92.
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Smirnov, K.
THE PROBLEM OF THE WILD PRECISION RANGE-FINDER. Trans. on Soviet Geodesy 1925-40. 3 Jan 61, 4p. JPRS: R-109-N/65.
Order from OTS $0.50 61-11700

Trans. of Geodezist (USSR) 1931 [v. 7] no. 11/12, p. 34-36.

Smirnov, K.
THE RHYTHMIC CHRONOMETER AND RHYTHMIC SIGNALS. Trans. on Soviet Geodesy 1925-40. 3 Jan 61, 5p. JPRS: R-109-N/52.
Order from OTS $0.50 61-11696

Trans. of Geodezist (USSR) 1931 [v. 7] no. 7, p. 37-41.

Smozhenkov, N. F.
SOME WAYS TO REDUCE MANUAL WORK IN CARTOGRAPHIC PRODUCTION. 18 Jan 60, 6p. JPRS: 6585.
Order from OTS $0.50 61-11712

Trans. of Geodeziya i Kartografiya (USSR) 1960, no. 6, p. 56-60.

Information, based on the personal experience of the author, is surveyed on (1) the use of the map compilation as a model for the color-separation, (2) the omission of names on the map compilation, (3) the use of projecting devices, (4) the use of the relief model of an older map, (5) training people to make maps by the method of simultaneous compilation and final drawing of the elements of the map, (6) the method of simultaneously compiling and engraving the map original, and (7) chemical methods of engraving the elements of the map content.

Sokolov, P. P.
CONCERNING THE DISTORTION OF AZIMUTH ANGLES IN AN AERIAL PHOTOGRAPHY (CASE OF FLAT TERRAIN). Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 16p. JPRS: R-107-N/70.
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Steppe, Ya. Ya.
THE NEW MAP AT A SCALE OF 1:500,000. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 14p. JPRS: R-114-N/48.
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Sveshnikov, N.
MORE ABOUT PERFECTING THE GAUSS TABLES. Trans. on Soviet Geodesy 1925-40. 27 Dec 60, 1p. 1 ref. JPRS: R-108-N/97.
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Vysotskiy, V.
INDIVIDUAL ADJUSTMENT OF ANGLES AND LINES IN THEODOLITE TRAVERSES BY THE METHOD OF LEAST SQUARES. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 16p. 14 refs. JPRS: R-109-N/2.
Order from OTS $0.50 61-11783

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Ya., A.
PHOTO-THEODOLITE SURVEY IN THE CAUCASUS IN 1925. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 5p. JPRS: R-104-N/12.
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Trans. of Geodezist (USSR) 1926 [v. 2] no. 7/8, p. 75-78.

Yershov, D.
DISTORTION OF CENTRAL ANGLES, THE VERTEXES OF WHICH ARE LOCATED NEAR THE PRINCIPAL POINT OF THE PHOTOGRAPH. Trans. on Soviet Geodesy 1925-40. 12 Jan 61, 14p. 4 refs. JPRS: R-108-N/40.
Order from OTS $0.50 61-11734

Trans. of Geodezist (USSR) 1930 [v. 6] no. 5, p. 12-21.

Yurkevich, A.
A "RIGID PLUMB" LINE FOR MEASUREMENTS OF ANGLES BY THE METHOD OF THREE TRIPODS. Trans. on Soviet Geodesy 1925-40. 15 Dec 60, 12p. JPRS: R-108-N/57.
Order from OTS $0.50 61-11835

Trans. of Geodezist (USSR) 1930 [v. 6] no. 8/9, p. 16-25.

Geology

Abasov, M. T., Dzhalilov, K. N., and Semenova, I. I.
FLOW OF FLUID TO A WELL WITH A CLOGGED SCREEN IN A NONHOMOGENEOUS FORMATION. [1960] 5p.
Order from ATS $7.50 ATS-07M43R

Trans. of Akad[emiya] Nauk Azerbaydzhan[skoy] SSR [Baku]. Doklady, 1960, v. 16, no. 2, p. 127-131.

Abramovich, M. V.
THE ROLE OF THE STUDY OF THE BITUMENS OF SEDIMENTARY ROCKS IN THE LIGHT OF THE PROBLEM OF THE FORMATION OF PETROLEUM AND ITS DEPOSITS. [1960] 3p.
Order from ATS $6.70 ATS-55M44R

Trans. of Akad[emiya] Nauk Azerbaydzhan[skoy] SSR, [Baku]. Doklady, 1960, v. 16, no. 1, p. 49-52.

Bajor, Matthias.
AMINES, AMINO ACIDS, AND FATS AS FACIES INDICATORS IN LOWER RHENISH BROWN COALS AND THEIR ANALYTICAL DETERMINATION. [1960] [25]p. 30 refs.
Order from SLA mi$2.70, ph$4.80 61-10361

Trans. of Braunkohle [Wärme und Energie] (West Germany) 1960, v. 12, no. 10, p. 472-478.

The investigation shows that it is possible, with the aid of the distribution of amines and amino acids in sediments, to establish a differentiation between marine-influenced and fresh-water brown coals. The differences found between the two facies zones are explained as effects of the conditions of deposition (pH, redox potential, salinity, organisms) and diagenetic processes. The amino acids and amines do not occur in water soluble forms. The fat and boron contents of the same samples show no apparent dependence upon facies. A method for determination of amino acids is described. (Author)

Borisov, Yu. P. and Mukharskiy, Ye. C.
DETERMINATION OF SOME CHARACTERISTICS OF PETROLEUM RESERVOIRS BY MEANS OF A FORMATION TESTER. [1960] 7p.
Order from ATS $12.65 ATS-75M44R

Trans. of Neftyanoye Khoz[yaystvo] (USSR) 1960, v. 38, no. 2, p. 49-54.

Borodin, L. S.
GEOCHEMISTRY OF THE KHIBINA ALKALINE MASSIF (K Geokhimii Khibinskogo Shchelochnogo Massiva). Sep 60 [12]p. 4 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-4186

Trans. of Akademiya Nauk SSSR. Institut Mineralogii, Geokhimii i Kristallokhimii Redkhikh Elementov. Trudy, 1957, no. 1, p. 23-34.

On the basis of collected data, an examination is made of the following problems of the general geochemistry of the Khibina Massif: (1) average quantitative composition of the Massif; (2) dissemination of certain dispersed elements in rocks and minerals; and (3) classification of elements of the Khinina Complex according to their geochemical role in rocks and pegmatites.

Chaykovskaya, Ye. V.
THE QUESTION OF CARBONATE OIL SOURCE BEDS IN THE TURUKHANSK AND NORIL'SK DISTRICTS. [1960] 7p.
Order from ATS $12.20 ATS-56M44R

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zaved[eniy]. Neft i Gaz (USSR) 1960, v. 3, no. 1, p. 19-25.

Denisov, N. Ya.
ENGINEERING GEOLOGY AND HYDROGEOLOGY: SELECTED SECTIONS, tr. by S. Friedman. 1960, 107p. PL-480-PST Cat. no. 133.
Order from OTS $1.00 60-21861

Trans. of mono. Inzhenernya Geologiya i Gidrogeologiya, Moscow, 1957, p. 137-143; 210-276 and 287-301.

The sections included are entitled: Transporting activity of wind and formation of aeolian deposits; The concept of percolation; The basic law of percolation; Factors affecting the value of the percolation coefficient; Determination of the velocity of flow of subterranean waters; Determination of the coefficient of percolation; The flat current and its discharge; Discharge of subterranean current in an interfluvial massif with regard to infiltration; Yield of perfect wells; Yield of imperfect wells; Specific yield of wells; Absorption wells and their discharge; Pumping procedure; Dependence of a well's yield upon the level drop of water; Interaction of wells; Influence of head upon the position of the water table; Problems of hydrogeological investigations; The extent of hydrogeological investigations; The composition of hydrogeological investigations; Classification of exploitation reserves of subterranean waters; Determination of exploitation reserves of subterranean water; Conditions of attributing the subterranean water reserves to a definite category; General information [on basic types of rocks]; Study of hard rocks; and Study of clayey rocks.

Fechtig, H., Gentner, W. and Zahringer, J.
ARGON DETERMINATIONS IN POTASSIUM MINERALS. VII. LOSS OF ARGON IN MINERALS DUE TO DIFFUSION AND ITS EFFECT ON THE POTASSIUM-ARGON AGE DETERMINATION. [1960] 9p.
Order from ATS $10.85 ATS-37M46G

Trans. of Geochim[ica] et Cosmochim[ica] Acta (Gt. Brit.) 1960, v. 19, p. 70-79.

Kheiirov, Z. B.
THE FLOW OF FLUID TO UNCOMPLETED WELLS, WITH PERMEABILITY VARYING THROUGHOUT THE FORMATION THICKNESS. [1960] 5p.
Order from ATS $7.00 ATS-49M43R

Trans. of Akad[emiya] Nauk Azerbaydzhan[skoy] SSR, [Baku]. Doklady,, 1959, v. 15, no. 12, p. 1091-1095.

Omel'yanenko, B. I.
POSSIBLE WAYS IN WHICH ALKALINE MAGMAS MAY HAVE BEEN FORMED IN GEOSYNCLINE REGIONS (AS EXEMPLIFIED IN THE TURKESTAN-ALAI SYSTEM) (Vozmozhnyye puti Formirovaniya Shchelochnykh magm v Geosinklinal'nykh Oblastyakh (na Primere Turkestano-Alaya). Nov 60 [14]p. 14 refs. RTS 1563.
Order from LC or SLA mi$2.40, ph$3.30 61-15199

Trans. of *Akademiya Nauk SSSR. Izvestiya. Seriya Geologicheskaya, 1959 [v. 24] no. 12, p. 54-59.

Polak, L. S. and Rapoport, M. B.
THE ABSORPTION OF GAMMA RAYS BY SEDIMENTARY DEPOSITS (O Pogloshcheniy Gamma-Luchey Osadochnymi Porodami). [1960] 5p. 3 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-4228

Trans. of Prikladnaya Geofizika (USSR) 1956, no. 15, p. 135-139.

The absorption of gamma rays of average energies (0.5 to 2.0 Mev) by sedimentary deposits is due to the Compton effect. The photo-electric effect and the formation of electron-positron pairs can be neglected. The absorption coefficient of gamma rays of a definite energy is directly proportional to the density of an ore. The mineralogical composition of the ore does not affect this proportionality. The fact that the absorption coefficient of gamma rays of a definite energy depends only on the density and not on the mineralogical composition of the ore can be utilized in interpreting gamma-drilling diagrams and also in determining core-drilling densities, that is, in gamma-gamma-drilling. (Author)

Remy, W.
CAN WE EXPECT TO DISCOVER HIGHER PLANTS FROM THE CAMBRIAN AND PRE-CAMBRIAN? [1960] 9p.
Order from ATS $16.25 ATS-38M46G

Trans. of Forsch[ungen] u[nd] Fortschr[itte] (Germany) 1955, v. 29, no. 7, p. 193-198.

ENGINEERING

Aleksandrov, M. M.
DETERMINATION OF THE TOOL WEIGHT IN DRILLING DIRECTIONAL HOLES. [1960] 7p.
Order from ATS $11.30 ATS-16M45R

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zaved[eniy]. Neft i Gaz (USSR) 1960, v. 3, no. 1, p. 35-41.

Fuks, N. A.
PRECIPITATION OF AEROSOLS ON VERTICAL SURFACES (Osazhdeniye Aerozoley na Vertikal'nykh Poverkhnostiakh). 4 Oct 60, 9p. (1 fig. omitted) 3 refs. Trans. V-1619.
Order from LC or SLA mi$1.80, ph$1.80 61-13803

Trans. of mono. Aerozoli v Sel'skom Khozyaystve, Moscow, 1956, p. 77-81.

The mechanism of aerosol precipitation on vertical surfaces is analyzed in an attempt to improve insecticidal wall spraying. Unipolarly infected (sic) aerosols are recommended because they disseminate evenly in all directions by their own priming and they sediment evenly on the ceiling, walls, and bottom of the chambers. A compact mobile device must be constructed and mounted on an aersol generator to obtain a unipolar corona discharge working from the light network. A low capacity generator must be invented to produce a mist of 5 to 10 micron particles.

Makhmudov, M. N.
THE POSSIBILITY OF HYDRAULIC FRACTURING DURING DRILLING. [1960] 5p.
Order from ATS $8.70 ATS-67M44R

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zaved[eniy]. Neft i Gaz (USSR) 1960, v. 3, no. 5, p. 57-62.

Onishchenko, Yu. A.
CALCULATION OF ROCK PRESSURES IN VERTICAL MINE SHAFTS (Raschet Gornogo Davleniya v Vertikal'nykh Stvolakh Shakht). Sep 60 [8]p. 4 refs. RTS 1417.
Order from LC or SLA mi$1.80, ph$1.80 61-13236

Trans. of Ugol' Ukrainy (USSR) 1958, v. 2, no. 9, p. 12-15.

An examination of shafts showed that the most characteristic type of rock fall from the walls consists of "breakaway" slips. A study of 145 slips occurring in the sinking or widening of shafts in the Donbass indicated that the principal factors leading to slips in the exposed rocks are structural weakness, gravity forces, inflow of water, and effects of shot-firing. No correlations were found between the dimensions of the slips and the depth, the dip, or length of exposure (up to 6 months). The basic stable form of slip exposure in the walls of shafts appears to be a sloping face or declivity. The majority of rocks (sand-stones, lime-stones, sandy shales and others) are capable of retaining a stable vertical face for a considerable time after exposure. At the boundary of the compression zone and within the mass the rock is under uniform compression, and subjected to a stress equal to or somewhat greater than γH. From the boundary of the compression zone towards the face there is a zone of weakening with reduced cohesion of the rock. The rock in this zone is subjected to a stress less than γH. The rock in the weakened zone finally collapses under the influence of gravity, water movement, variation of temperature, and effects of shot-firing, giving rise to various forms of cavity, i.e., slips, which may be regarded as slip prisms. Being opposed by the resistance of the supports, their weight gives rise to the rock pressure on the shaft. (Author)

Zaporozhets, V. M. and Sulin, V. V.
SOME RESULTS OBTAINED DURING RADIOACTIVE WELL LOGGING WITH AN INSTRUMENT USING SCINTILLATION COUNTERS. [1960] 5p.
Order from ATS $6.25 ATS-38M45R

Trans. of Razvedochnaya i Promyslovaya Geofizika (USSR) 1959, v. 29, p. 78-82.

Kolosov, S. P.
COMPONENTS OF AVIATION AUTOMATIC DEVICES ed. by S. P. Inozemtsev. [1960] [326]p. MCL-111/V.
Order from LC or SLA mi$11.10, ph$50.10
61-13613-1

Trans. of mono. Elementy Aviatsionnykh Avtomaticheskikh Ustroystv, Moscow, 1958, 588p. part I.

Basic information is presented concerning the characteristics, calculation, and design of the components (means of automation) of regulators of aviation automatic-control systems. The dynamic properties of these components are emphasized. Considerable attention is devoted to the specifics of their performance under aeronautical conditions. The book was written in conformity with the course "Components of Aviation Automatic Devices," and is intended as a study aid for students in the automation faculties of the aeronautical institutes of higher education; it may also be useful to production-engineering workers. The treatment of problems of calculation and design in separate chapters makes it possible to use the remaining material of the book as a text for students in the other aeronautical specialties as well. (Soviet publisher's announcement)

Slomyanskiy, G. A. and Pryadilov, Yu. N.
FLOATING GYROSCOPES AND THEIR APPLICATION, ed. by I. L. Yanovskiy. [1960] [338]p. 39 refs. F-TS-9910/V.
Order from LC or SLA mi$11.10, ph$51.60 61-13612

Trans. of mono. Poplavkovye Giroskopy i Ikh Primeneniye, Moscow, 1958, 244p.

This volume presents a brief survey of the fundamental properties of gyroscopes and their use for the purpose of determining the orientation of a given object (an aircraft, guided missile, etc.) with respect to a certain system of coordinates, which may be fixed or rotating in space in a prescribed manner; the type designations and capabilities of typical differentiating and integrating gyroscopes are examined. Detailed consideration is given to the design, theory, and analytical procedures applied to floating differentiating and integrating gyroscopes, and to certain problems attendant upon their application. The volume contains data pertaining to American floating gyroscopes. The physical bases for inertial navigation systems are outlined briefly. The book is intended for use by engineers working in the field of gyro-mechanism engineering, and may also prove useful to students in the instrument-engineering specialties. (Soviet publisher's announcement)

Chemical Engineering

Andreyevskiy, A. A. and Zenkevich, Yu. V.
AN INVESTIGATION OF SALT CARRY OFF BY STEAM USING RADIOACTIVE ISOTOPES (Issledovaniye Unosa Soley s Parom Metodom Radioaktivnykh Izotopov), tr. by Esther S. Goldberg. [1960] 18p. (foreign text included).
Order from LC or SLA mi$2.40, ph$3.30
UCRL Trans-501(L)

Trans. of Teploenergetika (USSR) 1955, v. 2, no. 9, p. 37-42.

The character of the dependence of the carry off coefficient in the precritical region in the first place is determined by the degree of separation of moisture from the steam. Under very careful separation the dependence of the carry off on load is practically absent. With no separation the dependence of the carry off on load is very material. Partial separation creates some intermediate dependence. In view of the fact that the steam volume and the rise section of the steampipe act as a unique separator, each steam generator constructed will have principally its own peculiar carry off dependence on load in the precritical region. (Author)

Gupalo, I. P.
IS IT NECESSARY TO HAVE A GAS EXHAUST AT THE ANODE TOP OF AN ALUMINUM ELECTROLYZER? [1960].
Order from PS $9.10 PS CR-2827

Trans. of Tsvetnyye Metally (USSR) 1959 [v. 32] no. 4, p. 53-57.

Ioffe, I. I. and Grigorov, A. F.
THEORY OF REACTION RATES FOR A FLUIDIZED BED OF CATALYST. [1961] 16p. 37 refs.
Order from RIS $30.00 RIS A-124

Trans. of Khim[icheskaya] Nauka i Prom[yshlennost'] (USSR) 1959, no. 3, p. 243-250.

Klassen, V. I.
THE FLOTATION OF FINE SLIMES BY AIR PRECIPITATED FROM SOLUTION. [1960].
Order from PS $11.20 PS CR-2828

Trans. of Tsvetnyye Metally (USSR) 1959 [v. 32] no. 1, p. 27-32.

Kolesnikov, G. S. and Klimentova, N. V.
TRIBUTYLBORON: A POLYMERIZATION CATALYST FOR UNSATURATED COMPOUNDS (Tributilbor: Katalizator Polimerizatsii Nenasyschchennykh Soyedinenii). [1960] 4p. 2 refs.
Order from LC or SLA mi$1.80, ph$1.80 61-10463

Trans. of *Akad[emiya] Nauk SSSR. Otdel[eniye] Khim[icheskikh] Nauk. Izvest[iya] 1957, no. 5, p. 652-653.
Other translations are available from LC or SLA mi$1.80, ph$1.80 as 59-15939 [1959] 3p. and in French as CEA-tr-R365, 10 May 58, 4p.

L'vov, S. V. and Fal'kovskiy, V. B.
A METHOD OF CALCULATING REACTION VESSELS OF GAS-IN-LIQUID TYPE. [1961] 5p. 11 refs.
Order from RIS $5.00 RIS A-125

Trans. of Khim[iya] Tekh[nologiya] Topl[iv i] Masel (USSR) 1960, v. 5, no. 2, p. 52-54.

Mamet, A. P. and Nikolayev, A. V.
AN EXPERIMENT ON THE PREPARATION OF A MAGNESITE SORBENT AND THE REMOVAL OF SILICATE FROM WATER FOR FEEDING HIGH PRESSURE BOILERS (Opyt Prigotovleniya Magnezitovogo Sorbenta i Obeskremnivaniya Vody dlya Pitaniya Kotlov Vysokogo Davleniya). Nov 60 [13]p. RTS 1543.
Order from LC or SLA mi$2.40, ph$3.30 61-15203

Trans. of Teploenergetika (USSR) 1958 [v. 5] no. 10, p. 42-46.

The results are presented of a test of a filtration method of silicate removal from water in industrial conditions. (Author)

Manin, A. Ye.
REDUCED CONSUMPTION OF FLUORIDE SALTS AND INCREASED LABOUR OUTPUT IN ALUMINUM PRODUCTION. [1960].
Order from PS $9.30 PS CR-2823

Trans. of Tsvetnyye Metally (USSR) 1959 [v. 32] no. 5, p. 67-72.

Orochko, D. I., Melik-Akhnazarov, T. Kh., and Poluboyarinov, G. N.
STEP-WISE COUNTER-CURRENT METHOD OF CONTACTING FINE-GRAINED SOLID MATERIALS WITH GASES AND VAPOURS IN HETEROGENEOUS CHEMICAL PROCESSES, tr. by L. H. Sinclair. 1960 [19]p. 27 refs. IG Information Series 65 (RD/R); M 1583.
Order from LC or SLA mi$2.40, ph$3.30 60-19983

Trans. of Khim[iya i] Tekh[nologiya] Topl[iv i] Masel (USSR) 1957 [v. 2] no. 12, p. 1-12.

A classification of the methods for dividing the reactors into sections is proposed based on successive, technological treatment of the solid materials and on the nature of motion of the gaseous and solid reagents in relation to one another. Possible constructional arrangements of sectionalized reactors are considered. Theoretical calculations for intensification of bimolecular heterogeneous reactions carried out under stepwise counter-current conditions, as compared with those carried out in common fluidized bed reactors, were experimentally confirmed with four typical processes: (1) oxidation regeneration of catalysts, (2) methylation of pentenes, (3) petroleum coke gasification, and (4) catalytic cracking. The step-wise counter method shows promise for variable-cycle first- and second-order processes when carried out over circulating, finely ground catalysts with progressively decreasing activity.

Pikazin, Ya. S. and Rybakov, Ye. T.
METHOD OF HYDROGEN GENERATION. [1961] 4p.
Order from RIS $4.00 RIS M-82

Trans. from ['Byulleten' Izobreteniy] (USSR) 1960, no. 6 (Russian patent 126 872, cl. 12 1, 1/01, appl. 16 July 59 under no. 634126/23 to the Comittee for Inventions and Discoveries of the Council of Ministers, USSR).

Rubin, B. I.
APPROXIMATE ANALYSIS OF THE RESULTS OF THE INTERACTION OF CURRENTS WITH THE MAGNETIC FIELD IN ALUMINUM ELECTROLYZERS. [1960].
Order from PS $6.40 PS CR-2824

Trans. of Tsvetnyye Metally (USSR) 1958 [v. 31] no. 8, p. 53-56.

Rumpf, H.
LOADING THEORY OF IMPACT SIZE REDUCTION. [1960] 33p.
Order from ATS $38.40 ATS-71M46G

Trans. of Chemie-Ing[enieur]-Tech[nik] (West Germany) 1959, v. 31, no. 5, p. 323-337.

Civil Engineering

EXPLOSION LAYS DOWN A RIVER BED. [1960] 1p.
Order from LC or SLA mi$1.80, ph$1.80 UCRL Trans-514(L)

Trans. from Pravda (USSR) 1958, 25 Mar, no. no. 85(14479).

PRELIMINARY DIRECTIVES CONCERNING WATER SUPPLY AND DEWATERING IN THE RECONDITIONING OF PROTECTION BUNKERS, EFFECTIVE DEC 58 (DRAFT). Oct 60, 12p.
Order from OTS $0.50 AEC-tr-3893

Trans. of mono. Vorläufige Richtlinien für die Versorgung mit Wasser und für die Entwasserung bei der Wiederinstandsetzung von Schutzbunkern. Fassung Dezember 1958 (Entwurf) n.p. 1958?

Krukovskiy, M. Ya., ed.
CODE OF PRACTICE FOR THE DESIGN OF HYDRAULIC STRUCTURES; HYDRAULIC COMPUTATION OF WEIRS, tr. by Y. Prushansky. 1960, 76p. PL-480-PST Cat. no. 151.
Order from OTS $1.00 60-21864

Trans. of mono. Tekhnicheskiye Usloviya i Normy Proyektirovaniya Gidrotekhnicheskikh Sooruzheniy; Gidravlicheskiye Raschety Vodoslivov, Moscow-Leningrad, 1952.

This code, compiled by the B. E. Vedeneev All-Union Research Institute of Hydraulic Engineering, is restricted to methods of computation for the design of the "straight rectangular weir". New, not previously published methods are included, as well as those known from the literature.

Shnitnikov, D. V.
DISCUSSION ON PROBLEMS OF SOIL CONSOLIDATION AND OF SHEARING RESISTANCE OF SOILS (Diskussiya po Voprosam Uplotneniya Zemlyanykh Mass i Soprotivleniya Gruntov Sdvigu). [1960] 12p. 4 refs. PL-480-PST Cat. no. 37.
Order from OTS $0.50 60-51077

Trans. of Gidrotechnicheskoye Stroitel'stvo (USSR) 1951 [v. 20, no. 12] p. 38-43.

See also 60-21147

Valet, G.
PALAMINY CHUTE, CANAL BANK REVETMENT WITH WATERPROOF BITUMINOUS CONCRETE. [1961] 21p.
Order from RIS $30.00 RIS B-64

Trans. of Construction (Belgium) 1960, v. 15, no. 6, p. 270-276.

Walas, Stefan.
FIRST EXPERIMENTAL HOME ON THE STATE FARM OF BABSK (Pierwszy Eksperymentalny dom Mieszkalny w PGR Babsk) tr. by Danuta Brzostowska. 1960 [8]p. 2 refs. PL-480.
Order from OTS $0.50 60-21224

Trans. of Budownictwo Wiejskie (Poland) 1958, v. 10, no. 11, p. 24-26.

Electrical and Electronic Engineering

IMPROVED POLYVINYL CHLORIDE FOR ELECTRICAL INSULATORS. [1961] [10]p.
Order from RIS $3.00 RIS rept. 61075

Trans. of German patent application N.13 184 (39c, 25/01) DAS 1 068 017, by N. V. De Bataafsche Petroleum Maatschappij, the Hague, filed 15 Jan 57, pub. 29 Oct 59 (priority, Netherlands, 17 Jan 56).

PROCESS FOR THE AFTERTREATMENT OF A SEMICONDUCTOR MATERIAL FOR RECTIFIERS, TRANSISTORS, ETC. [1961] 4p.
Order from RIS $6.00 RIS T-22

Trans. of German patent application S 41 845 (21 g, 11/02) DAS 1 033 784, by Siemens-Schuckertwerke A.G., filed 7 Dec 54, pub. 10 July 58, released 24 Dec 58.

Arrighi, M. R.
STUDY OF CABLES WITH METALLIC SHIELDING (SCREENS) AND SOLID INSULATION SUBMITTED TO SHORT CIRCUIT CURRENTS. [1960] [37]p.
Order from SLA mi$3.00, ph$6.30 61-10381

Trans. of Société Française des Électriciens. Bulletin, 1959, ser. 7, v. 9, no. 107, p. 649-665.

Gussand, V. and Taygelka, Ya.
METHOD OF MEASURING THE RESTORATION OF ELECTRICAL STABILITY IN AN AIR-QUENCHED CUT-OFF SWITCH (Metod Izmereniya Vosstanovleniya Elektricheskoy Prochnosti Vozdushnogo Vykluchatelya). Sep 60 [6]p. 2 refs. RTS 1498.
Order from LC or SLA mi$1.80, ph$1.80 61-13227

Trans. of Elektrichestvo (USSR) 1959, no. 7, p. 70-72.

The proposed measurement method is based on the fact that, if a breakdown occurs in the breaking unit, discharge cannot be stopped, because the current in the circuit is determined by its inductance.

Il'yn, V. A.
IMPORTANT TRENDS IN TELEMECHANICS. [1960] 5p. M1697.
Order from LC or SLA mi$1.80, ph$1.80 61-13514

Trans. of Akademiya Nauk SSSR. Vestnik, 1959 [v. 29] no. 5, p. 30-34.

Reference is made to the development and use of ferro-magnetic elements with a square hysteresis loop in distributors and selector circuits, and to the creation of contactless frequency selectors on the basis of LC circuits and filters with ferrite and ferro-magnetic cores.

Ponomarev, V. M.
POWER CHARACTERISTICS OF CONTROL PROCESSES IN SYSTEMS OF AUTOMATIC REGULATION. [1960] 14p. 1 ref.
Order from LC or SLA mi$2.40, ph$3.30 61-10316

Trans. of Akademiya Nauk SSSR. Otd[eleniye] Tekh[nicheskikh] Nauk. Izvestiya: Energetika i Avtomatika, 1959, no. 6, p. 134-140.

General integral relations are presented for the energy consumed or demanded in a control system, particularly one with an oscillatory transient response. Figures illustrate how the energy demand depends on a parameter α specifying the action of the program control (essentially the reciprocal of the time-scale of the program) or on ω, the frequency of a perturbing force. It is shown that the relations are of rather general type, and so may be applied to many different control systems.

Priimak, G.
CORRELATION FUNCTION OF A SIGNAL PASSING THROUGH A MEDIUM WITH RANDOMLY MOVING INHOMOGENEITIES. [1960] 14p. 3 refs.
Order from MDF $7.50 MDF P-157

Trans. of Izv[estiya] V[ysshikh] U[chebnykh] Z[avedeniy]. Radiofizika (USSR) 1960, v. 3, no. 5, p. 778-788.

Rips, Ya. A.
ESTIMATE OF THE OPERATIONAL RELIABILITY OF ELECTROMAGNETIC MECHANISMS [Ostenka Nadezhnosti Srabatyvaniya Elektromagnityikh Mekhanizmov]. [1961] 14p. 4 refs.
Order from RIS $15.00 RIS 0-7

Trans. of *Elektrichestvo (USSR) 1959, no. 8, p. 57-62.

Tormasov, V. V.
THE USE OF GERMANIUM DIODES AND TRIODES IN THE SOURCE OF INITIAL IMPULSES OF CIRCUIT CONTROL. [1960] [4]p. M 1092.
Order from LC or SLA mi$1.80, ph$1.80 60-13897

Trans. of [Nauchno-Issledovatel'skiy Institut Postoyannogo Toka. Izvestiya] (USSR) 1958, v. 3, p. 197-200.

Mechanical Engineering

Prilutskiy, D. N.
REFRIGERATION ENGINEERING; A SOURCE BOOK OF SOVIET LITERATURE. 1960, 288p. PL-480-PST Cat no. 97.
Order from OTS $3.00 60-51073

Trans. of mono. Bibliograficheskiy Spravochnik po Voprosam Kholodil'noy Tekhniki za 1923-1955 gg (Bibliographic Index of Papers on Refrigeration Engineering for 1923-1955) Moscow, 1956.

The present index indicates articles that have been published in the following journals: Kholodil'noe i boenskoe delo (Refrigeration and the slaughtering industry) 1923-1924; Kholodil'noe delo (Refrigeration) 1925-1927; Skoroportyashchiesya produkty i kholdil'noe delo (Perishable products and refrigeration) 1928-1929; Kholodil'noe delo (Refrigeration) 1930-1936; Kholodil'naya Promyshlennost' (The Refrigeration industry) 1937-1940; Kholodil'naya tekhniki (Refrigeration engineering) 1941; Myasnaya i molochnaya promyshlennost SSSR (Meat and milk industry, USSR) 1943-1947; and Kholodil'naya tekhnika (Refrigeration engineering) 1948-1955. The entries are chronologically arranged under three topic headings: (1) The technical operation and design of refrigerating plants; (2) The refrigeration treatment and transport of food products and the use of refrigeration in various branches of the national economy; and (3) The techniques of refrigeration and air conditioning.

Semenovker, I. Ye.
OPERATING CONDITIONS OF A RADIATION SUPERHEATER PLACED ALONG THE WHOLE HEIGHT OF THE FURNACE (Usloviya Raboty Radiatsionnogo Peregrevatelya Raspolozhennogo po Vsey Vysote Topki). Dec 60 [13]p. RTS 1492.
Order from LC or SLA mi$2.40, ph$3.30 61-15236

Trans. of Teploenergetika (USSR) 1959, v. 6, no. 7, p. 41-45.

A radiation superheater placed along the whole height of the furnace and made of low alloy steel type 12KhMF can work in complete safety in boilers at $p = 100$ atm, when maintaining the "weight velocity" of the steam in the tubes at 700 to 1000 kg/m^2 sec, and with a steam temperature beyond the radiation superheater of 400°C. Calculations show that under the same conditions a wall-type radiation superheater can work at $p = 140$ atm as well. The "weight velocity" of the steam weight in the tubes during the initial period of flashing up should be in the order of $\gamma\omega \geq 100$ kg/m^2 sec. In cases when the burner jet is about 3 m from the radiation superheater $\gamma\omega \geq 100$ kg/m^2 sec is sufficient. With transitional and unstable operating conditions of the boiler, the presence of a radiation superheater causes increased temperature fluctuations in the superheated steam. (Author)

Ordnance, Missiles, and Satellite Vehicles

Belyayev, A. F. and Khariton, Yu. B.
ON THE TRANSMISSION OF DETONATION BETWEEN INITIATING EXPLOSIVE SUBSTANCES. III. THE DIMENSIONS OF PARTICLES TRANSMITTING THE DETONATION (O Peredache Detonatsii Mezhdu Initsiruyushimi Vzryvchatymi Veshchestvami III. Razmery Chastits, Peredayushchikh Detonatsiyu). 29 Nov 60, 10p. JPRS: 7218.
Order from OTS $0.50 61-11604

Trans. of Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki (USSR) 1937, v. 7, no. 1, p. 198-202.

The number of particles transmitting detonation which are dispersed by an active crystal is about 4×10^5. A principle of retardation of microscopic particles rapidly moving in a gas is deduced. On the basis of experiments on the transmission of detonation in rarefied gases and in a vacuum and of the principle of retardation the linear dimensions of the particles transmitting detonation are of the order of 10^{-4} cm, their mass of the order of 10^{-11}g. The mechanical effects of particles dispersed by an active charge on a glass surface during their detonation are described.

Lovetsky, Ye. Ye.
SOME PROBLEMS OF THE THEORY OF AN EXPLOSION IN POROUS SUBSOIL. [1960] 8p. 4 refs. M1952.
Order from LC or SLA mi$1.80, ph$1.80 61-13334

Trans. of Akademiya Nauk SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izvestiya: Mekhanika i Mashinostroyeniye, 1959, no. 6, p. 36-43.

An improved expression of the adiabatic curve of the expanding products is used. The magnitude of the energy of the elastic waves caused by the explosion is obtained for certain concrete cases. Under loading, porous subsoils are characterized by large irreversible compression deformations. These deformations occur principally as a result of closing of the pores. It may be assumed that, in the area close to

the charge, the subsoil is compressed to a constant maximum density. The detonation products formed under great pressure by the detonation of the charge expand as a result of the compression of the neighboring layers of subsoil; a wave of plastic compression travels through the subsoil. The explosion cavity increases, and the subsoil is deformed with irreversible losses. The increase of the explosion cavity is accompanied by internal plastic friction in the subsoil already compressed, since each spherical layer moves as its radius increases.

Sadovskiy, M. A.
ON METHODS OF EVALUATION OF THE LOCAL EFFECT OF AN EXPLOSION (O Sposobakh Otsenki Mestnogo Deystviya Vzryva). 6 Jan 60, 12p. JPRS: 7444.
Order from OTS $0.50 61-11778

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1946, v. 20, no. 11, p. 1371-1375.

Ship Building

Bulgakov, B. V.
APPLIED THEORY OF GYROSCOPES, tr. by Jacques J. Schorr-Kon. 1960, 282p. 56 refs. PL-480-PST Cat no. 103.
Order from OTS $3.00 60-21166

Trans. of mono. Prikladnaya Teoriya Giroskopov, Moscow, 1955, 2 ed.

Discussions are presented on the operation principles of gyroscopic navigation instruments and other gyroscopic mechanisms. Topics discussed include: The general properties of a symmetrical gyroscope; The gyroscopic pendulum; Foucault gyroscopes; Application of the astatic gyroscope; Gyrocompasses; Direct gyroscope stabilizers; General theory based on exact equations; Oscillations of the figure axis about the kinetic axis and the method of variation of parameters in the theory of gyroscopes; The accumulation of deviations in gyroscopic instruments; and A theory of power gyroscopic instruments. The Russian second edition, from which this translation was made, is essentially a reprint of the original 1939 edition.

Mamontov, Yu. N.
DIAGRAMS FOR EVALUATING THE EFFECT OF NOZZLES ON PROPELLER PERFORMANCE (Diagrammy dla Opredeleniya Effektivnosti Ustanovki Napravlayushchikh Nasadok i Rascheta Grebnykh Vintov) tr. by B. V. Nakonechny. Jan 61 [10]p. 2 refs. Trans. 301.
Order from LC or SLA mi$1.80, ph$1.80 61-15312

Trans. of Sudostroyeniye (USSR) 1959 [v. 25] no. 8, p. 9-11.

An approximate method is presented for evaluating the effect of a nozzle on the performance of a propeller. Illustrative diagrams are included. An example of the performance of a tug with and without nozzle is also given. (David Taylor Model Basin abstract)

FOOD, HANDLING, AND PACKAGING EQUIPMENT

Food

Makarova, T. I., ed.
TECHNOLOGY OF FISH PROCESSING: SELECTED ARTICLES (Tekhnologiya Rybnykh Produktov) tr. by J. Styr. 1960, 263p. 171 refs. PL-480-PST Cat. no. 109
Order from OTS $2.75 60-21865

Trans. of Vsesoyuznyy Nauchno-Issledovatel'skiy Institut Morskogo Rybnogo Khozyaystva i Okeanografii. Trudy (USSR) 1958, v. 35, p. 5-38, 46-83, and 102-271.

Contents:
Use of natural cold in the air conditioning of fish processing plants, by G. S. Konokotin
Changes in weight and moisture of fish preserves in tomato juice during preparation and storage, by M. V. Kalantarova
Quantitative characteristics of fish after salting, by I. P. Levanidov
The comparative characteristics of anchovy salting using dry salt and salt solutions, by A. Ye. Ragulin
Changes in the roe during preparation of pressed caviar, by Yu. I. Raininskaya
Investigation of the properties of smoke generated for curing fish, by V. A. Solinek
Investigation of the acid preservation of fish and fish offal, by L. L. Lagunov, L. N. Yegorova and others
Changes in the Nitrogenous substances of fish meat during meal preparation, by K. A. Mrockhov
The influence of intensity proteolysis and microbial contamination on the appearance of "splitting" in various types of fish, by A. P. Makashev, A. I. Minkina and others
Storage of frozen fish glazed by the addition of antioxidants, by R. R. Perepletchik and Ye. I. Novikova
Changes in salted fish during storage in salt solutions, by I. Ya. Kleimenov, Z. P. Uspenskaya and others
Experimental storage of fish dried by the freeze drying method, by K. B. Martem'yanova
The effect of storage temperature on the development of microflora in preserves of Baltic sprats, by S. I. Ivanova
Technical characteristics of various fish products, by L. S. Leviyeva, M. E. Kand and others
Technological features of antarctic whales and efficient methods for their utilization, by K. A. Mrochkov
Research on establishing optimum conditions for the processing of subcutaneous whale blubber in the vacuum apparatus chain of the "Slava", by K. A. Mrochkov, A. I. Gusev and others
Changes in the structure of the subcutaneous blubber of finback whale during thermal extraction of the oil, by A. N. Golovin
Production of semiprepared campolon from the fresh liver of Antarctic whales, by A. N. Kulikov, K. A. Mrochkov and others.

Ogielski, Leslaw, Brzecka, Krystyna, and Gajos, Eugeniusz.
PRECIPITATION METHOD APPLIED IN QUANTITATIVE ANALYSIS FOR DETERMINING PROPORTIONS OF TWO KINDS OF MEAT IN A MIXTURE (Oznaczanie Ilosciowego Stosunku Dwoch Gatunkow Miesa w Mieszaninie Metoda Precypitacji) tr. by M. Zawadowska. 1960, 3p. 7 refs. PL-480.
Order from OTS $0.50 60-21512

Trans. of Medycyna Weterynaryjna (Poland) 1957, v. 13, no. 9, p. 533-534.

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

Engines and Propulsion Systems

Kosharskiy, B. D.
DYNAMIC CHARACTERISTICS OF THE "JET AMPLIFIER-SERVOMOTOR" SYSTEM (Dinamicheskiye Kharakteristiki Sistemy "Struynyy Usilitel'-Ispolnitel'nyy Mekhanizm") tr. by H. H. [1960] 11p. 3 refs. H-7486.
Order from OTS $0.50 61-11125

Trans. of *Avtomatika i Telemekhanika (USSR) 1960 [v. 21] no. 7, p. 997-1006.

Lebedinskiy, A. P. and Gershman, I. I.
USE OF MULTIFUELS IN AUTOMOBILE ENGINES (Mnogotoplivnost' Avtomobilnykh Dvigateley). [1960] [26]p. (10 figs. omitted) 10 refs. H-6711; JPRS (R-1122-D).
Order from OTS $0.75 61-11100

Trans. of Avtomobil'naya Promyshlennost' (USSR) 1960, no. 4, p. 18-23.

Information is surveyed on some modern engines (mainly American and German models that are not yet available to the general public) that operate reliably on a wide assortment of fuels ranging from solar oil to high-octane gasoline.

Manufacturing Equipment and Processes

Abdel Aziz, M. K. and Hofmann, W.
EXPERIMENTS WITH PRESSURE WELDING OF ALUMINUM AT DIFFERENT TEMPERATURES. [1960] 11p.
Order from ATS $13.90 ATS-34M45G

Trans. of Aluminium (Germany) 1960, v. 36, no. 6, p. 312-317.

Chekmarev, A. P. and Chernyavskiy, A. A.
GEOMETRY OF THE ROLL PASS IN THE HOT PILGERING OF TUBES. [1961].
Order from BISI £5 10s BISI 1989

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedeniy]. Chern[aya] Met[allurgiya] (USSR) 1959 [no. 11] p. 47-62.

Hertl, A.
HYDRAULIC BLOOM AND SLAB SHEARS. [1961].
Order from BISI £5 5s BISI 1764

Trans. of Tech[nische] Mitt[eilungen] (West Germany) 1958, v. 51, Oct, p. 513-519.

Lazarenko, B. R.
PHYSICAL PRINCIPLES OF ELECTRIC SPARK TREATMENT OF METALS. [1960] 7p. 1 ref. M1691.
Order from LC or SLA mi$1.80, ph$1.80 61-13035

Trans. of A[kademiya] N[auk] SSSR. Vestnik, 1959 [v. 29] no. 6, p. 49-56.

Data are reviewed contradicting the opinion of W. M. Williams that in the course of a spark impulse material is extracted without melting.

Pavlov, I. M.
THE EQUILIBRIUM OF FORCES IN ROLLING WITH LATERAL SPREAD. [1961].
Order from BISI £5 15s BISI 1826

Trans. of Stal' (USSR) 1947 [v. 7] no. 1, p. 39-48.

Plyatskovskiy, O. A. and Chernyavskiy, A. A.
THE DESIGN OF THE PILGER ROLL PROFILE FOR ACHIEVING MAXIMUM MILL OUTPUT. [1961].
Order from BISI £3 5s BISI 2004

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedeniy]. Chern[aya] Met[allurgiya] (USSR) 1959, no. 10, p. 49-56.

Wilhelm, E.
EVALUATION OF REPLIES TO A QUESTIONNAIRE ON THE LIFE OF ROLLS IN SPECIAL STEEL ROLLING MILLS. [1961].
Order from BISI 3 5s BISI 1963

Trans. of Stahl [und] Eisen (West Germany) 1960, v. 80, 1 Sep, p. 1207-1211.

Transport, Traction and Hoist Facilities

WATER TRANSPORT: SELECTED TRANSLATIONS, tr. by M. P. [1960] [52]p. (charts and maps omitted) H-2745 A, B, C.
Order from OTS $1.50 61-11103

Trans. of Shui Yun (Chinese Peoples' Republic) 1958, no. 5, p. 6; 1957, no. 6, p. 11-13, 15-17, 35, 38-40 and [no. 8] p. 5.

Contents:
Make full use of wooden junks, by Wei-mo Chang
Discussion on opinions concerning the development of the Chungking harbor, by Chik-k'ai Chou
Experiences on boat-pushing methods on the Amur River, by Shu-ming Wang
Passing over the slack season of transportation, by Hung-liang Wu
Fundamental knowledge on harbors and ports, by Yu-kuei Lu
The harnessing of the Whangpoo River, in the past and in the present.

Chaplyigin, A. V.
QUESTIONS OF INTER-BASIN, WATER-ECONOMICAL TIES, tr. by B. V. Kassell. [1960] [120]p. 26 refs. H-7122.
Order from OTS $2.50 60-21977

Trans. of mono. Voprosyi Mezhbasseynovyikh Vodokhozyaystvennyikh Svyazey, Moscow, 1956, 137p.

Contents:
Chap. 1. The water economy of the main river basins of the USSR and the prospects for its development
Chap. 2. Forms of inter-basin ties and national economy prequisites for their use
Chap. 3. Natural conditions and technical means for the determination of the possibility of the creation of interbasin, water-economical ties
Chap. 4. Economic evaluation of inter-basin water-economical ties
Chap. 5. Principles for creating water complexes in river basins and inter-basin ties.

Chudakov, Ye. A.
INFLUENCE OF THE ELASTICITY OF TYRES ON THE STABILITY OF THE STEERED WHEELS OF A CAR. [1960] 7p. M2168.
Order from LC or SLA mi$1.80, ph$1.80 61-13663

Trans. of [Akademiya Nauk] SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izvestiya, 1950, no. 8, p. 1105ff.

Seils, A.
COAL-TAR PITCH AND BITUMEN AS CORROSION PROTECTION ON STEEL BRIDGES AND STRUCTURES OF THE GERMAN FEDERAL RAILROAD. [1960] 13p.
Order from ATS $18.25 ATS-79M46G

Trans. of Bitumen, Teere, Asphalte, Peche [und Verwandte Stoffe] (West Germany) 1960, v. 11, no. 7, p. 275-280.

Sessarevskiy, A. N.
THE ABAKAN-TAYSHET PROJECT (Na Stroitel stve Abakan-Tayshet) tr. by H. Holz. [1960] 8p. H-6690.
Order from OTS $0.50 61-11128

Trans. of Transportnoye Stroitel'stvo (USSR) 1959 [v. 9] no. 11, p. 12-15.

The railway construction work is described that has been performed on the western sector of the Abakan-Tayshet line under complex conditions involving mountainous conditions, heavy precipitation, powerful winds, and extremely low temperatures. The Abakan-Tayshet line, which is part of the current 7-year plan, will connect the South Siberian main line with the Trans-Siberian trunk line.

Töpfer, W.
THE PROBLEM OF WEIGHING MOVING VEHICLES ON A GRADIENT. [1961].
Order from BISI £.4 BISI 1945

Trans. of E[isenbahntechnische] R[undsckau] (West Germany) 1959, Sonderausgabe 11, Sep, p. 73-78.

MATERIALS

GYPSUM IN RURAL BUILDING (Gips w Budownictwie Wiejskim) tr. by Danuta Brzostowska. 1960 [5]p. PB-480.
Order from OTS $0.50 60-21242

Trans. of Budownictwo Wiejskie (Poland) 1958, v. 10, no. 12, p. 16-17.

Drath, Heinrich.
SESTRA RADIATION PROTECTION. [1960] 9p.
Order from SLA mi$1.80, ph$1.80 61-10287

Trans. of unidentified German mono. n.p., n.d.

Sestra structural elements, which consist basically of concrete, are compared with other means of radiation protection (lead, baryte, etc.). The structural design of Sestra elements is discussed and applications to air raid protection are noted.

Massonet, Ch. and Moenaert, P.
CALCULATION OF THE ULTIMATE FLEXURAL STRENGTH OF REINFORCED CONCRETE SUBJECTED TO SIMPLE OR COMPOUND FLEXURE STATISTICAL COMPARISON OF VARIOUS THEORIES WITH THE PUBLISHED RESULTS OF EXPERIMENTAL RESEARCHES. [1960] 22p., 19 refs.
Order from SLA mi$2.70, ph$4.80 61-10138

Trans. of preliminary publication of Congress of the A[ssociation for] B[ridge and] S[tructural] E[ngineering] (no. 6) Stockholm, 27 June-1 July 60.

Four methods for calculating the breaking strength of reinforced concrete members subjected to simple or compound bending have been compared with the test results published in the literature and comprising a total of 1553 usable tests. These tests relate to members having a rectangular, T, or inverted-T section, with a single or twin reinforcement made of mild steel or high-tension steel. The four methods of

calculation are based on the two equilibrium equations, the law of the conservation of plane sections and the properties of the concrete and steels employed, as defined by the European Committee on Concrete. They differ solely in the shape adopted for the diagram of the stresses in the part of the concrete under compression; the forms studied were: the parabola, the rectangle, the triangle and the distribution law suggested by Hognestad, Hanson and McHenry. The calculations were carried out by means of a single programme on an IBM 650 computer. For the various types of beam that were tested the publication gives the mean values and the degrees of scatter of the ratio r= observed moment of rupture/calculated moment of rupture. (Author)

Pascal, H.
ONE METHOD OF DETERMINING THE PERMEABILITY OF A POROUS MEDIUM. [1960] 6p.
Order from ATS $7.85 ATS-47M44R

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zaved[eniy]. Neft' i Gaz. (USSR) 1960, v. 3, no. 4, p. 49-53.

Uvarova, V. M. and Rodicheva, M. F.
A STUDY ON THE CAUSES OF APPEARANCE OF DICHROIC (COLORED) FOG AND BLACK FILM OCCURRING IN THE PROCESS OF DEVELOPING THICK-LAYERED NUCLEAR PLATES (Issledovaniye Prichin Poyavleniya Dikhroicheskoy (Tsvetnoy) Vuali i Chernogo Naleta Voznikayushchikh v Protsesse Proyavleniya Tolstosloynykh Yadernykh Plastinok). [1960] 15p. (foreign text included) 3 refs.
Order from LC or SLA mi$2.40, ph$3.30
UCRL Trans-453

Trans. of [Vsesoyuznyy Nauchno-Issledovatel'skiy Kinofotoinstitut. Trudy] (USSR) 1957, no. 11(21), p. 30-35.

A study was made of the dependence of the dichroic fog density upon the sulfite concentration in the developer and on the temperature of the dry stage of development. On the bases of the study, the following conditions for the development of thick-layered plates are recommended. Emulsion layers of 200 to 400 microns in thickness should be developed in amidol developers with a very low sulfite content, of the order 10 g to 1 liter, and pH value of the solution should be brought with citric acid to a value not exceeding -6.7. The temperature of the dry stage should not be increased above 24° ($\pm 0.5^{\circ}$)C.

Ceramics and Refractories

Naruse, Akira, Shinnobu, Michito, and Mishina, Motosaku.
EXPERIMENTAL TRACE ON TESTS WITH A MODEL AND TECHNOLOGICAL CONDISERATIONS OF THE THROAT CURRENT THEORY. Rept. 2 of Studies on the Throat of Glass Melting Tank. [1960] [34]p. 21 refs.
Order from SLA mi$3.00, ph$6.30 60-18542

Trans. of Yogyo Kyokaishi (Japan) 1957, v. 65, no. 742 [p. 259-268].

The velocity distribution of convection currents in the throat of a glass melting tank was observed. Glycerine was used as the current body in place of molten glass and the current was traced with 2-bromnaphthalene and spindle oil colored with sudan III. The formula $f^{1/4}h_{opt} = 2.91(W\eta 1/\rho_o \rho bgk\Delta\theta)^{1/4}$ was derived for finding the throat dimensions for minimum erosion speed of throat refractories. The formula also determines the critical condition for the elimination of backward current in the throat. Here f is the convection current correction factor for wall friction in 3-dimensional flow, h_{opt} is the optimum or critical height of the throat in cm, W is the pull rate of liquid in g/sec, η is the liquid viscosity in g/cm sec, l is the throat length in cm, ρ_o is the density of the liquid at standard temperature in g/cc, ρ is the density of liquid at throat temperature, b is the throat width in cm, g is the gravitational constant in cm/sec^2, k is the mean cubic coefficient of thermal expansion of the liquid in cc/cc/$^{\circ}$C, and $\Delta\theta$ is the mean temperature difference between the melting and working sides of the throat.

Paderno, Yu. B., Serebryakova, T. I., and Samsonov, G. V.
PREPARATION AND SOME PROPERTIES OF HAFNIUM BORIDE. [1960] 2p. 15 refs. M1957.
Order from LC or SLA mi$1.80, ph$1.80 61-13338

Trans. of Tsvetnyye Metally (USSR) 1959 [v. 32] no. 11, p. 48-50.
Another translation is available from LC or SLA mi$1.80, ph$1.80 as AEC-tr-4030, 4 Apr 60, 5p.

Tsigler, V. D., Belukha, P. G., and Shakhnovich, I. G.
INFLUENCE OF CERTAIN PROCESS FACTORS ON THE PROPERTIES OF LIGHT-WEIGHT KAOLIN REFRACTORIES (Vliyaniye Nekotorykh Tekhnologicheskikh Faktorov na Svoystva Kaolinovykh Legkovesnykh Ogneuporov). Nov 60 [10]p. 6 refs. RTS 1548.
Order from LC or SLA mi$1.80, ph$1.80 61-15201

Trans. of Ogneupory (USSR) 1958 [v. 23] no. 1, p. 5-11.

The refractoriness of kaolin light-weight articles depends upon the ash content of the combustible employed. Every 10% of combustible with an ash content of not more than 10% decreases the refractoriness of the articles by up to 5°. The density of kaolin light-weight articles (about 1.3 g/cm^3) is dependent upon the combustible, which should be introduced into the charge in quantities increasing with increasing firing temperature, but of not less than 35 wt.-%. The main process factors determining the crushing strength of kaolin light-weight articles are: moisture content of the pastes, degree to which the charge is diluted with grog, the particle size of the grog, introduction of clinkering admixture, forming pressure, ultimate firing temperature and the time for which the articles are soaked at this temperature. (Author)

Fuels, Lubricants, and Hydraulic Fluids

Schenck, H.
THE BURNING OF COKE. [1961].
Order from BISI £4 BISI 1751

Trans. of Stahl [und] Eisen (West Germany) 1959, v. 79, Dec, p. 1933-1938.

Vichnievsky, Rostislav and Guyot, Robert.
POSSIBILITY OF EVALUATING FUELS FROM POINT OF VIEW OF THEIR COMBUSTION IN ENGINES (Possibilite d'Appreciation des Carburants du Point de Vue de leur Combustion dans les Moteurs). [1960] [5]p. 4 refs.
Order from SLA mi$1.80, ph$1.80 61-10461

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1949, v. 228 [30 May] p. 1699-1701.

Leather and Textiles

NEW DEVELOPMENTS IN THE MANUFACTURE OF SPECIAL SYNTHETIC YARNS. [1961] 14p. 28 refs.
Order from RIS $27.50 RIS D-661

Trans. of Inst[itut] Text[ile de] France. Bull[etin] 1959, no. 82, p. 113-125.

Gröbe, V. and Verslumer, H.
THE PROBLEM OF DENIER VARIATIONS IN MELT SPINNING OF POLYAMIDES AND POLYESTERS: BRIEF NOTES. [1960] 2p.
Order from ATS $3.25 ATS-88M46G

Trans. of Faserforsch[ung] u[nd] Textiltech[nik] (Germany) 1960, v. 11, no. 2, p. 90-91.
Another translation is available from SLA mi$1.80, ph$1.80 as 61-10161, May 60 [3]p.

Kachurin, M. G.
THE PREVENTION OF STREAKINESS IN COTTON FABRICS (Bor'ba s Polosatost'yu Khlopchatobumazhnykh Tkaney). Dec 60 [10]p. 1 ref. RTS 1658.
Order from LC or SLA mi$1.80, ph$1.80 61-15238

Trans. of Tekstil'naya Promyshlennost' (USSR) 1958, v. 18, no. 5, p. 44-47.

Kobayashi, Yasuji, Okajima, Saburo, and Miya, Hiroshi.
MOLECULAR DEGREE OF ORIENTATION- AND DEGREE OF CRYSTALLIZATION CHANGES IN POLYVINYL ALCOHOL FIBERS BY DRY-HEAT TREATMENT. Rept. 5 on Dichroic Studies on Polyvinyl Alcohol Fibers. [1960] 26p. 36 refs.
Order from SLA mi$2.70, ph$4.80 60-18877

Trans. of Kogyo Kagaku Zasshi (Japan) 1956, v. 59, no. 1, p. 82-87.

Ribi, Edgar and Norling, Annalisa.
ELECTRON MICROSCOPE AND X-RAY STUDIES OF SUPERPOLYAMIDE THREADS. RELATIONS BETWEEN THE MICROSTRUCTURE OF SUPERPOLYAMIDE THREADS AND THAT OF VISCOSE SILK. [1961] 11p. 26 refs.
Order from RIS $15.00 RIS C-132

Trans. of Arkiv för Kemi (Sweden) 1954/55, v. 7, no. 46, p. 417-426.

Roth, W. and Schroth, R.
SPINNING AND DRAWING OF POLYCONDENSATE FILAMENTS. II. DRAWING UNDER VARIOUS CONDITIONS. [1960] 10p.
Order from ATS $15.45 ATS-04M46G

Trans. of Faserforsch[ung] u[nd] Textiltech[nik] (Germany) 1960, v. 11, no. 8, p. 365-373.

Sakurada, I. and Nukushina, Y.
STUDIES ON SMALL-ANGLE X-RAY SCATTERING OF POLYVINYL ALCOHOL. I. MEASUREMENT OF LONG PERIOD OF POLYVINYL ALCOHOL FIBERS PRODUCED UNDER VARIOUS CONDITIONS OF HEAT TREATMENT. [1960] 11p. 7 refs.
Order from SLA mi$2.40, ph$3.30 60-18465

Trans. of Kobunshi Kagaku (Japan) 1960, v. 17, no. 177, p. 13-16.

Sakurada, I. and others.
STUDIES ON SMALL-ANGLE X-RAY SCATTERING OF POLYVINYL ALCOHOL. II. CHANGE IN LONG-PERIOD OF POLYVINYL ALCOHOL FIBERS ON SWELLING. [1960] 5p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-18464

Trans. of Kobunshi Kagaku (Japan) 1960, v. 17, no. 177, p. 17-18.

See also 60-18465

Sakurada, I. and others.
STUDIES ON THE SMALL-ANGLE X-RAY SCATTERING OF POLYVINYL ALCOHOL. III. MEASUREMENT OF LONG-PERIOD OF POLYVINYL ALCOHOL FIBERS OF VARIOUS DEGREES OF ELONGATION. [1960] 6p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-18463

Trans. of Kobunshi Kagaku (Japan) 1960, v. 17, no. 177, p. 18-20.

See also 60-18464

Strepicheev, A. A., Kudrjavcev, G. I.; and Vasil'eva-Sokolova, E. A.
SOME POLYMERIC TRANSFORMATIONS OF POLYACRYLONITRILE. [1960] 11p.
Order from ATS $13.65 ATS-42M46G

Trans. of Faserforsch[ung] u[nd] Textiltech[nik] (Germany) 1960, v. 11, no. 8, p. 359-364.

Swillens, P.
PROPERTIES OF THE POLYNOSIC FIBER Z 54.. [1960] 5p.
Order from SLA mi$1.80, ph$1.80 61-10284

Trans. of Rayonne et Fibres Synthétiques (Belgium) 1960, v. 16, no. 2, p. 141-141.

Usmanov, Kh. U., Kargin, V. A. and others.
UPGRADING OF COTTON CORD BY OZONATION. [1960] 4p.
Order from ATS $6.50 ATS-62M46R

Trans. of Vysokomolekulyarnyye Soyedineniya (USSR) 1960, v. 2, no. 1, p. 88-91.

Zollinger, Heinrich.
DYEING PROCESSES AND MOLECULAR SHAPE (Farbevorgange und Molekulgestalt) tr. by W. H. Everhardy. 11 May 60, 33p. 32 refs. No. 5-8-60.
Order from LC or SLA mi$3.00, ph$6.30 60-17565

Trans. of a reprint of Textil-Rundschau (Switzerland) 1959 [v. 14] no. 3, p. 1-15.

Information is surveyed on: (1) steric influences on the fastness of dyes; and (2) the causes of the substantivity.

Photographic Materials

Bogomolov, K. S., Sirotinskaya, A. A. and others.
THE SCIENTIFIC PRINCIPLES OF A RATIONAL FORMULA FOR NUCLEAR PHOTOEMULSIONS THAT RECORD TRACES OF PARTICLES WITH MINIMUM IONIZATION (TYPE R) [Nauchnyye Printsipy Ratsional'noy Retseptury Yadernykh Fotoemul'siy Registriruyushchikh Sledy Chastits s Minimal'noy Ionizatsiyey (Tip R)], tr. by Richard B. Mudge. [1960] 45p. (foreign text included) 21 refs.
Order from LC or SLA mi$3.00, ph$7.80 UCRL trans-459

Trans. of Vsesoyuznyy Nauchno-Issledovatel'skiy Kinofotoinstitut. Trudy (USSR) 1957, no. 11(21) p. 73-86.

The general principles are reviewed upon which the development of a type R photoemulsion is based.

Bogomolov, K. S.
THE THEORETICAL BASES FOR THE PREPARATION OF HIGH QUALITY, FINE-GRAIN PHOTOGRAPHIC EMULSIONS (THE PRINCIPLE OF HOMOGENEITY) (Teoreticheskiye Osnovy Izgotoyleniya Vysokochuvstvitel'nykh Meklozernistykh Fotograficheskykh Emul'siy). [1960] 23p. (foreign text included) 8 refs.
Order from LC or SLA mi$2.70, ph$4.80 UCRL Trans-451

Trans. of Vsesoyuznyy Nauchno-Issledovatel'skiy Kinofotoinstut. Trudy (USSR) 1957, no. 11(21). p. 6-16.

The proposal is made to base the system of emulsion formulas upon the principle of homogeneity. Data are cited which indicate that in order to obtain maximum photosensitivity with minimum fog, the emulsion preparation must be so arranged that all the emulsion microcrystals have maximum homogeneous distribution of chemical maturation rates in all processing stages. Studies by Radiography Laboratory scientists under V. M. Uvarova affirm that colloidal homogeneity of emulsion microcrystals is one of the essential conditions of the principle of homogeneity.

Kryachko, V. V.
QUANTITATIVE LAWS OF FORMATION OF THE LATENT IMAGE BY ELECTRONS OF ENERGIES LESS THAN 40 ELECTRON VOLTS. Pt. 1 of Reaction of a Photographic Emulsion to Slow Electrons. [1960] 8p. 6 refs. T-3254.
Order from LC or SLA mi$1.80, ph$1.80 61-10276

Trans. of Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii (USSR) 1960, v. 5, no. 1, p. 34-38.

X-ray films (2X, Agfa Laue, and Agfa Texo) were sensitive to electrons with energies 2 to 40 electron volts. The Agfa Laue film was more sensitive than the others to electrons with energies of 2 to 20 ev. The relation of the densities to the electron energy within the range of 2 to 40 electron volts is shown for the films. Density has a minimum at 12 to 20 ev. When the film is developed in a "sub-surface" developer, a minimum or an inflection point exists; the density depends upon the length of irradiation time at constant electric energy equal to four electron volts. The density changes expotentially, however, when the film is developed in "surface" developer

Pankova, A. A. and Bogomolov, K. S.
INFLUENCE OF A SENSITIZING SOLUTION ON THE RECRYSTALLIZATION OF SILVER BROMIDE AND ON PHOTOGRAPHIC PROPERTIES OF NUCLEAR EMULSIONS (Vliyaniye Sensibiliziryuyshchego Rastvora na Perekristallizatsiyu Bromistogo Serebra i na Fotograficheskiye Svoystva Yadernykh Emul'siy). [1960] 23p. (foreign text included) 1 ref.
Order from LC or SLA mi$2.70, ph$4.80 UCRL Trans-456

Trans. of Vsesoyuznyy Nauchno-Issledovatel'skiy Kinofotoinstut. Trudy (USSR) 1957, no. 11(21), p. 49-57.

The influence of gold, sodium thiocyanate and sodium thiosulfate concentrations in emulsion sensitizers was studied in order to eliminate the recrystallization of emulsion grains, and to determine optimal concentrations and pH values. A thermostatic method of accelerated aging of liquid emulsion and prepared plates was used to study recrystallization. It was found that Au concentration of more than 0.24×10^{-4} m/kg induces photographic instability, thiocyanate concentration of 0.2×10^{2} m/kg and higher increases crystallization under increased humidity, and thiosulfate concentration higher than 0.04×10^{-5} m/kg increases granular fog. Lower concentrations yielded higher photographic indicators of granular fog without lowering the sensitivity to relativistic electrons, and the pH of an emulsion sensitized this way was comparatively stable.

Smirnov, O. K., Levi, S. M. and others.
ANTIREPELLENCY OF WETTING AGENTS DURING COATING OF PHOTOGRAPHIC EMULSIONS. [1960] 13p. 18 refs. T-3246.
Order from LC or SLA mi$2.40, ph$3.30 60-18484

Trans. of Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii (USSR) 1958, v. 3, no. 1, p. 34-38 and no. 6, p. 416-[418].

Uvarova, V. M., Rodicheva, M. F., and Romanovskaya, K. M.
AN INVESTIGATION INTO THE PROCESS OF RECRYSTALLIZATION OF GRAINS OF HALOIDAL SILVER IN EMULSIONS FOR NUCLEAR RESEARCH (Issledovaniye Protsessa Perekristallizatsii Zeren Galoidnogo Serebra Emul'siy dlya Yadernykh Issledovaniy) tr. by R. Titunik. Feb 59, 28p. (foreign text included) 5 refs.
Order from LC or SLA mi$2.70, ph$4.80
UCRL Trans-452

Trans. of Vsesoyuznyy Nauchno-Issledovatel'skiy Kinofotoinstitut. Trudy (USSR) 1957, no. 11(21), p. 17-29.

An investigation was made of the influence of bromide, urea, soda, ammonia, rhodanide and methyloxytriazoindolizine on recrystallization of nuclear emulsion grains of haloidal Ag. The methods used were thermostat standing, potentiometry, the nonsingle layer, and the optic. Large concentrations of urea, bromide, rhodanide and methyloxytriazoindolizine cause recrystallization. Grains with a second maturation of short duration were more easily crystallized, the intensity of crystallization increasing with emulsion storage. It was concluded that both the strength of the adsorption gelatin coatings on the grains and the strength of the structural grid of the gelatin molecules was deficient.

Uvarova, V. M., Deberdeyev, M. Yu., and Shcherbakova, Ye. I.
A STUDY OF THE SULFATE PRECIPITATION PROCESS OF NUCLEAR EMULSIONS (Issledovaniye Protessa Sul'fatnogo Osazhdeniya Yadernykh Emul'siy) [1960] 19p. (foreign text included) 3 refs.
Order from LC or SLA mi$2.40, ph$3.30
UCRL Trans-454

Trans. of [Vsesoyuznyy Nauchno-Issledovatel'skiy Kinofotoinstitut. Trudy] (USSR) 1957, no. 11(21), p. 36-42.

Plastics

MOLDING LIMITS OF ARTIFICIAL RESINS WHICH CAN BE HARDENED. [1960] 6p. (figs. omitted) 2 refs.
Order from SLA mi$1.80, ph$1.80 61-10105

Trans. of Werkstatt u[nd] Betrieb (Germany) 1936, v. 60 [no. 5/6] p. 66-68.

POLYMERIZATION IN MOULDS. [1961] 6p.
Order from RIS $8.00 RIS A-121

Trans. of German patent application R 25 549 (39c, 25/01) DAS 1 071 342, by Roehm and Haas, G. m. b. H., filed 15 May 59, pub. 17 Dec 59, patent publication date, 23 June 60.

POLYVINYL CHLORIDE MOULDING MASSES CONTAINING PLASTICIZERS AND POSSESSING REDUCED COLD FLUX. [1961] 6p.
Order from RIS $14.00 RIS rept. 61081

Trans. of German patent application R 17 969 (29b, 22/06) DAS 1 067 588, by Rhein-Chemie C. m. b. H., filed 17 Dec 55, pub. 22 Oct 59.

PREPARATION OF POLYURTETHAN PLASTICS. [1961] 18p.
Order from RIS $30.00 RIS U-141

Trans. of French patent 1 206 191, International class. C 08 g, by Farbenfabriken Bayer Aktiengesellschaft, filed 14 May 58, 1:15 P. M., pub. 8 Feb 60 (4 appl. made in Federal Republic of Germany by applicant; 2 patents, 16 and 21 May 57; 2 suppl. patents, 3 Aug and 21 Sep 57).

PROCESS FOR PRODUCTION OF FOAMS FROM POLYHYDROXY AND/OR POLYCARBOXYL COMPOUNDS AND POLYISOCYANATES. [1961] 10p.
Order from RIS $18.00 RIS U-143

Trans. of German patent application F 21 339 (39 b, 22/04) DAS 1 022 789, by Farbenfabriken Bayer A. G., appl. 29 Sep 56, pub. 16 Jan 58.

Schleipen, Raymond.
PLASTICIZER FOR WATER-SOLUBLE OR ALCOHOL-SOLUBLE PHENOL-ALDEHYDE RESINS. Dec 60 6p.
Order from RIS $14.50 RIS rept. 61099

Trans. of German patent application Sch 17 476 (39 b, 22/02) DAS 1 071 945, filed 10 Mar 55, pub. 24 Dec 59.

Wood and Paper

Borruso, Domenico.
THE POSSIBILITY OF ACCELERATING "THE FATTENING" OF CELLULOSE FIBERS. NOTE II. A STUDY OF BEATING IN THE PRESENCE OF DIRECT DYES AND THE EVALUATION OF °S. R. [1961] 17p. 22 refs.
Order from RIS $24.00 RIS D-667

Trans. of Industria della Carta (Italy) 1952, v. 6, p. 77-83. See also 61-12520

Centola, Germano and Borruso, Domenico.
NEW VIEWS OF THE FORMATION AND STRUCTURE OF PAPER. [1961] 25p. 16 refs.
Order from RIS $35.00 RIS D-66

Trans. of Industria della Carta (Italy) 1955, v. 9, p. 95-107.

Centola, G[ermano] and Borruso, D[omenico].
THE POSSIBILITY OF ACCELERATING "THE FATTENING" OF CELLULOSE FIBERS. NOTE I. [1961] 16p. 19 refs.
Order from RIS $20.00 RIS D-666

Trans. of Industria della Carta (Italy) 1952, v. 6, p. 41-47.

Rüf, Herbert.
LITERATURE ON KRAFT COOKING (CONTINUATION AND CONCLUSION). [1960] [9]p. 11 refs.
Order from SLA mi$1.80, ph$1.80 61-10388

Trans. of Wochenblatt für Papierfabrikation (West Germany) 1959 [v. 87] no. 19, p. 819-823.

Data from the literature are surveyed concerning (1) the effect of increased surface area of chips, (2) the effect of chip size on cooking time, (3) the composition of white liquor, (4) the alkali ratio, (5) black liquor, (6) danger levels, (7) sulphidity, (8) maximum temperature, (9) cooking time, and (10) mechanical action under alkaline conditions.

Simonescu, Cristofor, and Poppel, Emanoil.
CONTRIBUTIONS TO THE KNOWLEDGE OF THE ACTION OF ULTRAVIOLET LIGHT ON CELLULOSE. [1959] [12]p. 5 refs. E-156.
Order from LC or SLA mi$2.40, ph$3.30 59-16998

Trans. from [Academia Republicii Populare Romine. Filiala Iasi. Studii si Cercetari Stiintifice] [1953] v. 4, no. 1-4.

MATHEMATICS

Vvedenskaya, N. D.
SOLUTION OF CAUCHY PROBLEM FOR NONLINEAR EQUATION WITH DISCONTINOUS INITIAL DATA BY A METHOD OF FINITE DIFFERENCES (Resheniye Zadachi Koshi dlya Nelineynogo Uravneniya s Razryvnymi Nachal'nymi Dannymi Metodom Konechnykh Raznostey). [1960] 11p. (foreign text included) 8 refs.
Order from LC or SLA mi$2.40, ph$3.30
UCRL Trans-550(L)

Trans. of Akademiya Nauk SSSR. Doklady, 1956, v. 111, no. 3, p. 517-520.

MECHANICS

Kats, Sh. N.
CREEP AND RUPTURE OF TUBES UNDER THE ACTION OF INTERNAL PRESSURE (Polzuchest' i Razrusheniye Trub pod Deystviyem Vnutrennego Davleniya). [1960] 10p. (foreign text included) 11 refs. M 1979.
Order from LC or SLA mi$1.80, ph$1.80 61-13470

Trans. of A[kademiya] N[auk] SSSR. O[tdeleniye] T[ekhnicheskik] N[auk]. Izv[estiya] 1957, no. 10, p. 86-89.
Another translation is available from BISI£ 2 5s as BISI-1748 [1960].

Koch, Rudolph.
PRESSURE LOSS AND HEAT TRANSFER FOR TURBULENT FLOW (Druckverlust und Warmeubergang bei Verwirbelter Strömung). Sep 60, 135p. 39 refs.
Order from OTS $2.50 AEC-tr-3875

Trans. of VDI-Forschungsheft (West Germany) 1958, no. 469, p. 1-44.

In a smooth tube into which different passive turbulence-producing arrangements had been introduced (disks, rings, baffleplates, propellers, helically twisted metal strips, and packing materials) the pressure loss and the heat transfer were determined from Re 500 to 80,000 with and without the inserts. For disks with aperture ratios (m*) from 0.25 to 0.85, maximum values of the pressure loss and the heat transfer occurred for a certain m* in the range $4000 \leqq Re \leqq 80,000$ at disk distance (L') of about 10 K (where K is the disk height). For baffleplate inserts under the same conditions ($0.36 \leqq m^* \leqq 0.84$), a maximum for the pressure loss could only be determined at $L' \approx 0.9\ d_S$ (where d_S is the plate diameter). For propeller inserts, a decrease of the pressure loss and the heat transfer resulted with increasing distance L'; a simple relation to distanct L', however, could not be recognized. With metal twists, the pressure loss and the heat transfer were lower with increasing pitch h. If a pitch h smaller than about five tube diameters d is selected, then the heat transfer presumably no longer increases significantly in comparison to the value at $h/d = 5$. The highest values of pressure loss and heat transfer occurred in the tubes filled with packing materials. Heat transfer in the turbulent range at constant Reynolds number was approximately 7 to 8 times and pressure loss, depending on the type of packing, was 600 to 10,000 times as high as in the smooth tube. Turbulence producers do not increase the heat transfer as much in flow media with high Prandtl numbers as with those having a lower Prandtl number.

Namestnikov, V. S.
CREEP CAUSED BY VARIABLE LOADS UNDER THE CONDITIONS OF COMPLEX STATE OF STRESS (O Polzuchesti pri Peremennykh Nagruzkakh v Usloviyakh Slozhnogo Naprayazhennogo Sostoyaniya). [1960] 8p. (foreign text included) 4 refs. M1978.
Order from LC or SLA mi$1.80, ph$1.80 61-13357

Trans. of A[kademiya] N[auk] SSSR. O[tdeleniye] T[ekhicheskikh] N[auk]. Izv[estiya] 1957, no. 10, p. 3-5.

Preceding tension (torsion) has no effect on subsequent torsion (tension). Preceding torsion (tension) does not strengthen the material for subsequent tension (torsion). In experiments on simultaneous torsion and tension the strengthening effect of the preceding test is achieved when the parameter λ in the subsequent test changes insignificantly. Under variable loads the proportionality between deviations in stresses and deformations is violated. (Author)

Travaglini, Giovanni.
ON THE DAMPING OF VERTICALLY FLOWING COLUMNS. [1961] 18p.
Order from RIS $18.00 RIS B-66

Trans. of extract from Giornale del Genio Civile (Italy) 1958, no. 9.

METALLURGY

METALLURGY, METALS, METAL PRODUCTS, AND NONMETALLIC MINERALS, NO. 1. Series 3 of English Abstracts of Selected Articles from Soviet Bloc and Mainland China Technical Journals. Feb 61, 22p.
Order from OTS $18.00/6 issues 61-11142-1

Consists of Abstracts in English.

Belyayev, A. I.
THE ROLE OF ELECTROLYTE COMPOSITION IN INTENSIFYING THE WORKING OF ALUMINUM BATHS. [1960].
Order from PS $6.60 PS CR-2822

Trans. of Tsvetnyye Metally (USSR) 1958 [v. 31] no. 10, p. 61-66.

Esin, O. A and Okunev, A. I.
THE KINETICS OF THE INTERACTION OF METAL AND SLAG FROM THE POINT OF VIEW OF THE IONIC THEORY. Dec 53, 13p. 10 refs. M1312.
Order from LC or SLA mi$2.40, ph$3.30 60-15826

Trans. of Akademiya Nauk SSSR. Otdeleniye Tekhnicheskikh Nauk. Izvestiya, 1952, no. 10, p. 1472-1482.

A study has been made of the characteristics of processes assuming that the rate of interaction between metal and slag is determined by the rate of the transfer of ions across the boundary between the two phases. Taking the example of the desulphurization of pig irons, it has been shown that the equation giving the rate of the process, when derived on the basis of the ionic theory of slags, is in better agreement with the facts than equations based on the molecular point of view. Using the above equation, and explanation has been given of the following experimentally observed facts: (a) the diminishing rate of falling off of the rate of the process with increasing concentration of sulphur ions in the slag; (b) the proportionality between the initial rate of the process and the content of oxygen ions in the slag; (c) the more rapid rate of falling off of the initial rate of the process in the case of slags of lower basicity; and (d) the relation between the rate constant of the direct process and the basicity of the slag. (Author)

Gubin, G. V.
SWELLING OF MAGNETITE PELLETS AND BRIQUETTES DURING REDUCTION, tr. by S. Dobrianskyj. [1960] 4p. 3 refs. Trans. no. CRL/T.314; M1822.
Order from LC or SLA mi$1.80, ph$1.80 61-13146

Trans. of Akad[emiya] Nauk SSSR. O[tdeleniye] T[ekhnicheskikh N[auk]. Izvest[iya] 1957, no. 12, p. 76-77.

Carbonized samples, pellets, and briquettes made with no binder were tested in order to explain the conditions and possible causes of their swelling during reduction with carbon monoxide. The swelling of pellets and briquettes can be explained by the gas pressure developed inside individual grains of oxides.

Okunev, A. I.
AN EXPERIMENTAL STUDY OF THE PROCESS OF THE OXIDATION OF SULFIDES BY A THERMOGRAVIMETRIC METHOD. [1960].
Order from PS $10.10 PS CR-2821

Trans. of Tsvetnyye Metally (USSR) 1959 [v. 32] no. 5, p. 38-45.

Okunev, A. I.
THE ROLE OF OXYGEN AND THE PREHEATING OF AIR IN TREATING ZINC-CONTAINING SLAGS. [1960].
Order from PS $14.40 PS CR-2872

Trans. of Tsvetnyye Metally (USSR) 1955 [v. 28] no. 4, p. 35-40.

Sdobyrev, V. P.
LONG-TERM STRENGTH OF ALLOY EI-437B UNDER COMPLEX STRESSES [Dlitel'naya Prochnost' Splava EI-437B pri Slozhnom Napryazhennom Sostoyanii]. [1960] 11p. (foreign text included but will not reproduce well) 5 refs. M1365.
Order from LC or SLA mi$2.40, ph$3.30 61-13004

Trans. of Akad[emiya] Nauk SSSR. Otdel[eniye] Tekh[nicheskikh] Nauk. Izv[estiya] 1958, no. 4, p. 92-97.

Tests indicated that A. E. Johnson's criteria are not fully justified for alloy EI-437B. The straight line for pure torsion for the alloy lies lower than that for pure

tension and that for combined tension and torsion. An empirical relation of the form $f(\log 100T) = \sqrt{\sigma^2 + 1.366\,\gamma^2}$ has been found; it satisfactorily describes all three cases of pure tension, pure torsion and combined tension and torsion.

Vartanyan, A. M. and others.
THE INTRODUCTION OF OXYGEN-ENRICHED BLASTS IN SHAFT FURNACE LEAD SMELTING AT THE UST-KAMENOGORSK LEAD ZINC COMBINE. [1960].
Order from PS $14.50 PS CR-2877

Trans. of Tsvetnyye Metally (USSR) 1959 [v. 32] no. 8, p. 18-24.

Zhilo, N. L., Rudneva, A. V. and others.
AN INVESTIGATION OF THE VISCOSITY OF PRIMARY BLAST FURNACE SLAG, tr. by S. Dobrianskyj. [1960] 17p. (18 figs. will not reproduce) 3 refs. Trans. no. CRL/T.91; M1771.
Order from LC or SLA mi$2.40, ph$3.30 61-13101

Trans. of Akad[emiya] Nauk SSSR. Otdeleniye Tekhn[icheskikh Nauk]. Izvest[iya] 1957, no. 2, p. 27-35.

The aim of the present investigation is to study the effect of alkali, and also ferrous oxides in presence of alkali, on viscosity of primary blast furnace slags. Four basic components of this slag were selected from the total number and the content of remainder was kept constant or disregarded. (Author)

Ferrous Metals

Chuyko, N. M. and Rabinovich, A. G.
THE REMOVAL OF HYDROGEN FROM MOLTEN METAL BY BLOWING THROUGH OF ARGON, CONSIDERED IN TERMS OF THE BLOWING METHOD. [1961] 11p. 7 refs.
Order from RIS $8.00 RIS E-727

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedeniy]. Chern[aya] Met[allurgiya] (USSR) 1960 [no. 5] p. 49-54.
Another translation is available from HB $4.80 as HB-4882, July 60, 1800 words.

Debrivnaya, L. B.
EXTRACTING IRON FROM ZINC CONCENTRATES. [1960].
Order from PS $5.40 PS CR-2873

Trans. of Tsvetnyye Metally (USSR) 1957 [v. 30] no. 2, p. 5-8.

Fischer, W. A. and Hoffmann, A.
INFLUENCE OF CARBON AND OXYGEN ON THE BEHAVIOR OF SOME FOREIGN ELEMENTS IN HIGH-VACUUM IRON MELTING. [1960] 14p.
Order from ATS $19.95 ATS-69M46G

Trans. of Arch[iv für das] Eisenhüttenw[esen] (West Germany) 1960, v. 31, no. 7, p. 411-417.
Another translation is available from BISI £4 10s as BISI-1906 [1960].

Hütter, L.
DEVELOPMENT OF METHODS OF LINING OPEN-HEARTH FURNACES IN NORTH AMERICA. [1961].
Order from BISI £6 BISI 1929

Trans. of Stahl [und] Eisen (West Germany) 1960, v. 80, 9 June, p. 788-796.

Nacken, M. and Heller, W.
THE CHANGE IN COERCIVITY DURING AGEING OF UNALLOYED MILD STEELS. [1961].
Order from BISI £4 5s BISI 1990

Trans. of Arch[iv für das] Eisenhut[tenwesen] (West Germany) 1960, v. 31, Mar, p. 153-160.

Rieländer, H.
THE CRANES OF THE IRON AND STEEL WORKS AT ROURKELA IN INDIA. [1961].
Order from BISI £4 15s BISI 1913

Trans. of Stahl [und] Eisen (West Germany) 1960, v. 80, 26 May, p. 756-763.

Wondris, E. and Seul, V.
HARDNESS TESTING OF THIN SHEET AND TINNED SHEET. [1961].
Order from BISI £5 5s BISI 1924

Trans. of Stahl [und] Eisen (West Germany) 1960, v. 80, 17 Mar, p. 356-365.

Nonferrous (except light) Metals

Ankudimova, Ye. V. and Petrashen', V. I.
DETERMINATION OF MOLYBDENUM IN A MINERAL CONCENTRATE (Opredeleniye Molibdena v Rudnom Kontsentrate). Nov 60 [7]p. RTS 1709.
Order from LC or SLA mi$1.80, ph$1.80 61-15207

Trans. of Politekh[nicheskiy] Inst[itut] Novocherkassk [Nauchnyye] Trudy (USSR) 1955, v. 31, p. 73-77.

A volumetric method of determination of molybdenum is described that is based on reduction of Mo^{VI} to Mo^{V} with bismuth and hydrochloric acid and subsequent titration with an oxidizing agent.

Kuznetsov, V. I.
ON THE PRECIPITATION OF TIN WITH PHENYLARSONIC ACID (Ob Osazhdenii Olova Fenilarsonovoy Kislotoy). [1960] 16p. (foreign text included) 9 refs.
Order from LC or SLA mi$2.40, ph$3.30
UCRL Trans-572(L)

Trans. of Zhurnal Prikladnoy Khimii (USSR) 1940, v. 13, no. 10, p. 1512-1516.

A study of the relation of solutions of α- and β-compounds of tetravalent tin to phenylarsonic acid showed that ordinary α-compounds of tetravalent tin are precipitated with phenylarsonic acid considerably worse than β-compounds. Results indicate that in the precipitation of tetravalent tin with phenylarsonic acid, it is necessary to have tin in the form of a chloride of metastannic acid.

Malkin, Ya. Z.
LEAD SMELTING IN ELECTRIC FURNACES. [1960].
Order from PS $12.80 PS CR-2874

Trans. of Tsvetnyye Metally (USSR) 1956 [v. 29] no. 11, p. 36-42.

Rodyakin, V. V.
THE CARBIDE METHOD OF PRODUCING A LEAD-CALCIUM HARDENER ALLOY (Karbydnyy Sposob Poluchenia Svintsovo-kal'tsievoy Ligatury). Dec 60 [9]p. 5 refs. RTS 1520.
Order from LC or SLA mi$1.80, ph$1.80 61-15234

Trans. of Tsvetnyye Metally (USSR) 1958, v. 31, no.4, p. 43-49.

In order to assess the carbide process research was carried out to discover the optimum conditions for the process and to compare the technico-economic indices obtained from it with those obtained from other methods. Results justify the recommendation that the carbide method for producing the hardener should be introduced into Soviet industry. (Author)

Snurnikov, A. P.
TESTING FILTER-THICKENERS FOR THE FILTRATION OF NEUTRAL PULPS FROM ZINC CINDER LEACHING. [1960].
Order from PS $5.60 PS CR-2825

Trans. of Tsvetnyye Metally (USSR) 1959 [v. 32] no. 5, p. 55-58.

Structural Metallurgy and Corrosion

Dashkovskiy, A. I., Yevstyukhin, A. I. and others.
INTERNAL FRICTION IN URANIUM, tr. by S. J. Rothman. [1960] [7]p. 13 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-4407

Trans. of *Atomnaya Energiya (USSR) 1960, v. 9, no. 1, p. 27-[32].

The temperature dependence of the internal friction (IF) and shear modulus (SM) in U was studied. IF in α-U depends on the heat treatment and decreases after β or γ-annealing. The IF changes isothermally during polymorphic transformations. α to β and γ to β transformations are accompanied by a decrease in IF, and β to γ and β to α, by an increase. Each phase has its own value of the IF. (Author)

Karnov, M. Ya. and Voronin, A. A.
DEFORMATION BY VIBRATION. [1961].
Order from BISI £5 5s BISI 1987

Trans. of Kuznechno-Shtampov[ochnoye] (USSR) 1960, v. 2, Mar, p. 3-8.

Luft, G.
CORROSION OF ROLLED ALUMINUM PRODUCTS WASHED BY RAIN WATERS CONTAINING COPPER AND ZINC SALTS [Corrosione di Laminati di Alluminio da Parte delle Acque di Dilavamento Contenenti Sali di Rame e di Zinco].
Order from SLA mi$2.40, ph$3.30 61-10380

Trans. of Alluminio (Italy) 1959, v. 28, no. 3, p. 115-120.

Pauschardt, H.
THE METAL-SPRAY PROCESS AS PROTECTION AGAINST CORROSION. [1960] [12]p. 8 refs.
Order from SLA mi$2.40, ph$3.30 61-10117

Trans. of unidentified.mono. n. p., n. d.

Results obtained at Kiel Germany of the metal-spray process for protection against sea-water corrosion are described for experiments using iron and aluminum sheet and the following metallic sprays: Cd, Zn followed by Bakelite, Al and Zn, Al and Sn with Bakelite in gas liquor. Cd and Zn with Bakelite, and Zn and Sn with Bakelite were good antirust agents.

Radchenko, I. V.
THE STRUCTURE OF LIQUID METALS (Stroyeniye Zhidkikh Metallov), tr. by Richard B. Mudge. [1960] 89p. (foreign text included) 117 refs.
Order from LC or SLA mi$4.80, ph$13.80
UCRL Trans-378

Trans. of Uspekhi Fizicheskikh Nauk (USSR) 1957, v. 61, no. 2, p. 249-276.

Data of roentgenographic and neutronographic studies indicate that the packing of atoms in a liquid metal is related to the packing in the solid state; the character of this relationship depends upon the kind of metal. The coordination number of all metals after fusion either increases or does not alter. The hypothesis that the coordination number for lead, thallium and indium decreases is not sufficiently well-founded; this hypothesis is connected with a secondary maximum on the atomic distribution curve, and there are grounds for supposing that this maximum is the result of an

error in determining the intensity curve. Investigation of the temperature dependence of the intensity curves of potassium, sodium, tin and of certain other metals shows that in liquid metals the type of packing is retained up to high temperatures, considerably exceeding the melting point. (Author)

Savitskiy, Ye. M., Terekhova, V. V., and Naumkin, O. P.
ERBIUM AND ITS ALLOYS. [1960] 6p. (1 fig omitted) 11 refs. M2276.
Order from LC or SLA mi$1.80, ph$1.80 61-13758

Trans. of *Tsvetnyye Metally (USSR) 1960 [v. 33] no. 1 [p. 43-48].

The physico-chemical properties of metallic Er of 99.35% purity were determined. The hardness of cast Er is 130 to 135 kg/sq mm; the limit of proportionality is 19 kg/sq mm; and the ultimate strength under tension is 29 kg/sq mm. Contraction under compression is 22%. Melting temperature is 1550±20°C, the boiling point 2650°, and the heat of evaporation is 64.75 kcal/g atom. The hexagonal structure (with parameters a= 3.55 A, c=5.58 A, and c/a=1.57) was determined by X-ray analysis. The density is 9.08 g/sq cm. Er alloys, to 5%, with Al, Mg, Fe, and Ti, but not with Ta. All alloys are 2-phase mixtures of a eutectic or peritectic type. Er is a good modifier and hardner.

Smolyaninov, A. I.
THE STRUCTURE AND PHASE COMPOSITION OF PULVERIZED COPPER. [1960] [5]p. 2 refs.
Order from LC or SLA mi$1.80, ph$1.80 61-10232

Trans. of Tsvetnyye Metally (USSR) 1959 [v. 32] no. 8, p. 72-74.
Another translation is available from PS $5.00 as CR-2875.

Smolyaninov, A. I.
THE STRUCTURE AND PHASE COMPOSITION OF PULVERIZED COPPER. [1960].
Order from PS $5.00 PS CR-2875

Trans. of Tsvetnyye Metally (USSR) 1959 [v. 32] no. 8, p. 72-74.
Another translation is available from LC or SLA mi$1.80, ph$1.80 as 61-10232 [1960] [5]p.

Vasil'yev, V. P. and Chernomorchenko, S. G.
ON A METHOD OF STUDY OF THE SELF-DIFFUSION OF TUNGSTEN [K Metokike Issledovaniya Samodiffuzii Vol'frama], tr. by Helen J. Chick and Richard Bidwell. [1960] 14p. 12 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-4276

Trans. of Zavodskaya Lab[oratoriya] (USSR) 1956, v. 22, p. 688-691.
Another translation is available from LC or SLA mi$1.80, ph$1.80 as RTS-1491, 61-13228, Sep 60 [9]p.

The method described is based on the thick surface layer method of V. M. Golikov and V. T. Borisov (Zavodskaya Lab. 21; 7, 1955). The energy of activation of the self-diffusion of W is greater than for other metals studied except Bi. (See also 60-15393)

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

Balestic, F.
STUDY OF GAMMA RADIATION FROM URANIUM RODS DURING DEACTIVATION, tr. by Liz Appleby. 15 Feb 60 [13]p. 4 refs. CEA-671.
Order from LC or SLA mi$2.40, ph$3.30 HW-TR-11

Trans. of Commissariat a l'Energie Atomique (France) no. 671, May 57.

Isotope Separation

Cherdyntsev, V. V., Isabayev, Ye. A. and others.
EXCESS U^{235} IN MAGNETITE WITH A HIGH CONTENT OF ACTINIUM (Izbytok U^{235} v Magnetite s Povyshennym Soderzhaniyem Aktiniya). [1960] [4]p. 12 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-4269

Trans. of *Geokhimiya (USSR) 1960, no. 4, p. 373-374.

The excess of uranium (on the average U^{235}/U^{238} = 1.5) in a mineral with an increased content of actinium can be explained only by the presence of some transuranic isotope which is still present in nature. The enrichment in actinium and in U^{235} (an odd isotope of uranium) may be due to the complicated decay scheme of a single fissionable isotope. (Author)

Lavrukhina, A. K., Pavlotskaya, F. I., and others.
ION EXCHANGE CHROMATOGRAPHIC SEPARATION OF RADIOISOTOPES OF RARE-EARTH ELEMENTS [Ionoobmennoye Khromatograficheskoye Razdeleniye Radio-izotopov Redkozemel'nykh Elementov], tr. by Esther S. Goldberg. [1960] 14p. (foreign text included) 9 refs.
Order from LC or SLA mi$2.40, ph$3.30 UCRL Trans-523(L)

Trans. of [Zhurnal Neorganicheskoy Khimii] (USSR) 1958, v. 3, no. 1, p. 82-87.

Examples are presented showing the influence of the quantity of elements on the form and position of peaks on the output curves during chromatographic ion-exchange separation. According to the degree of decrease of quantity of elements, there occur in a series of cases an increase of the speed of washing-out. This fact is explained by the displacement of equilibrium, which is located in the washing solution on the side of the complex forms. With ultra-small concentration of elements their washing-out is characterized by narrow peaks. The peak displacement can cause worsening of the degree of separation of the elements by the ion-exchange chromatographic method.

Nuclear Engineering and Power

Boyko, V. I., Nikovo, V. I., and Orechkin, D. B.
HIGH PRESSURE REACTOR. [1961] 5p.
Order from RIS $5.00 RIS A-122

Trans. of [*Byulleten' Izobreteniy] (USSR) 1960, no. 1 [p. 12] (Russian patent application 125 239 (12 g, 2/01, 21 d^1, 56/01) appl. no. 623642/23, 30 Mar 59).

Diebner, Kurt.
NUCLEAR REACTOR SYSTEM WHOSE REACTIVITY IS VARIED BY VARIATION OF THE LEVEL OF A MODERATOR OR REFLECTOR LIQUID BY A PNEUMATIC METHOD, tr. by R. Forsyth. Dec 57 [7]p. 3 refs. IGRL-T/D. 58; M 2261.
Order from LC or SLA mi$1.80, ph$1.80 61-13773

Trans. of German patent 1, 010, 202.

The nuclear reactor system consists of two connected vessels, one of which contains the actual reactor while the other acts as a storage tank for the moderator or reflector liquid. The interchange of the moderator or reflector liquid between the two tanks is carried out by means of the difference of their pneumatic pressures. A controllable valve in the connecting pipe between the two tanks damps the flow of liquid and prevents an on-and-off oscillation of the liquid level, which is held by the throttling valve in the limiting case of aperiodic damping.

PHYSICS

Levitskiy, S. M. and Shashurin, I. P.
CHECKING THE APPLICABILITY OF THE PROBE METHOD TO THE MEASUREMENTS OF THE CHARGE CONCENTRATION IN A HIGH-FREQUENCY DISCHARGE, tr. by Lydia Venters. Oct 60, 10p. 17 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-4277

Trans. of *Radiotekhnika i Elektronika (USSR) 1959, v. 4, no. 8, p. 1238-[1243].

Investigations indicate that the classical single probe method may be used to measure the concentrations of charges in the plasma of the high-frequency discharge The double probe method in its present form is recommended for the use in high-frequency discharges only when the use of single probe for some reason is impossible.

Electricity and Magnetism

Barabanenkov, Yu. N.
MAXWELL EQUATIONS IN A ROTATING REFERENCE SYSTEM. [1960] 6p. 6 refs.
Order from MDF $7.50 MDF B-173

Trans. of N[auchnyye] D[oklady] V[ysshey] Sh[koly]. Fiz[iko]-matem[aticheskiye] Nauk[i] (USSR) 1959, no. 1, p. 141-145.

Neel, L.
THEORY OF THE MAGNETIC AFTER-EFFECT OF MASSIVE SUBSTANCES IN THE DOMAIN OF RAYLEIGH. [1960] 33p. (7 figs. omitted) 16 refs.
Order from SLA mi$3.00, ph$6.30 61-10162

Trans. of Journal de Physique et le Radium (France) 1950, v. 11, no. 2, p. 49-61.

Shtol'ts, Ye. V., Shur, Ya. S., and Kandaurova, G. S.
THE ANISOTROPY OF COERCIVE FORCE IN MAGNETICALLY ANISOTROPIC FINE POWDER SPECIMENS (Ob anizotropii Koertsitivnoy Sily v Magnitno-anizotropnykh Obraztsakh iz Tonkikh Poroshkov) tr. by E. G. Peters. 15 Feb 60, 7p. (2 figs. omitted) 7 refs. M1906.
Order from LC or SLA mi$1.80, ph$1.80 61-13296

Trans. of *Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya, 1958, v. 22, no. 10, p. 1269-1272.

Measurements were made of the coercive force of magnetically uniaxial powders of cobalt, Mn-Bi alloy, magnetite, and γ-ferric oxide. Angular-dependence curves showed that in textured specimens prepared from magnetically uniaxial powders the angular dependence of H_c may vary in character. A complicated dependence of H_c on ϕ, in which H_c has its maximum at a value of ϕ lying somewhere between 0^o and 90^o was observed in specimens of powdered cobalt, magnetite, and γ-ferric oxide. No change in the nature of the anisotropy of coercive force was observed for change of particle size. A change was observed in the nature of anisotropy of H_c for reduction of particle size in the case of magnetically anisotropic specimens of powdered low-coercivity Mn-Bi alloy.

Molecular Physics and Spectroscopy

Narbutt, K. I., Barinskiy, R. L., and Smirnova, I. S.
A NUCLEAR GENERATOR FOR X-RAYS FOR FLUORESCENT SPECTRAL ANALYSIS (Yadernyi Generator Rentgenovykh Luchey dlya Fluorestsentnogo Spektral'nogo Analiza). Nov 60 [14]p. 14 refs. [R-377-N].
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-4266

Trans. of *Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya, 1960, v. 24, no. 4, p. 354-361.

A study was made of γ- and X-radiation of a Tu^{170} source for fluorescent excitation of K-radiation of elements from $_{30}Zn$ to $_{92}U$. Source Tu^{170} is disintegrated by β-γ disintegration. The radiation source consists of: (1) β-radiation with energy 968 kev and 884 kev; (2) γ-radiation with energy 84 kev; and (3) X-radiation of ytterbium and thulium (basically Yb-$K_{\alpha 1,2}$, Tu-$K_{\alpha 1,2}$ $\approx$52 kev), for retarded radiation, originating by retarding β-particles in source substance. About one hour is required for the entire analysis, and the greatest part of this time is used for sample preparation. The measurement and treatment

of results requires not more than 20 minutes. Compactness of equipment, absence for the necessity of high-power electrical energy (energy is consumed only in feeding the electron grid equipment) make this method useful for application in field conditions.

Suez, Bernard P. and Wuhrmann, Jean J.
SPECTROSCOPIC STUDY OF COMPLEXES FORMED BY LEWIS ACIDS. IV. INFRARED ABOSRPTION SPECTRUM OF ADDITION COMPOUNDS OF ALUMINUM CHLORIDE WITH ACETYL AND MESITOYL CHLORIDES (Etude Spectroscopique des Compleses Formes par les Acides de Lewis. IV. Spectre d'absorption Infra-rouge des Composes d'addition du Chlorurc d'Aluminium avec les Chlorures d'Acetyle et de Mesitoyle). [1960] [15]p. 39 refs.
Order from SLA mi$2.40, ph$3.30 61-10482

Trans. of Helv[etica] Chim[ica] Acta (Switzerland) 1957, v. 40 [no. 4] p. 971-980.

The authors describe the preparation of addition compounds of acetyl and mesitoyl chlorides with Al_2Cl_6 obtained in the form of almost colorless solids whose infrared spectrum has been determined. The absence in these spectra of the frequencies ω(C = 0) (1802 and 1775 cm^{-1}, and (C - Cl) (593 and 613 cm^{-1}) as well as the presence of a new intense absorption band, (2305 and 2190 cm^{-1}) leads to the adoption for these compounds of a resonance formula:

$$Cl_3AlCl \cdot RC \equiv O \longleftrightarrow Cl_3Al : ClRC = O$$

with an important contribution to ionic structure. (Author)

Solid State Physics

Delorme, C.
THE ASYMMETRY OF THE BIVALENT COPPER ION IN COMBINATIONS OF THE "NaCl TYPE" AND THE "SPINEL TYPE". II. STUDY OF M_2CuO_4 SPINELS AND THEIR SOLID SOLUTIONS. [1960] 41p. (formulae 23 figs. omitted) 33 refs.
Order from SLA mi$3.30, ph$7.80 61-10176

Trans. of Soc[iété] Franç[aise de] Minér[alogie et de] Crist[allographie]. Bull[etin] 1958, v. 81, p. 79-102.

Iveronova, V. I. and Roytburd, Ts. M.
ON THE QUESTION OF MORPHOTROPY IN THE CRYSTAL STRUCTURE OF TRIPHENYL COMPOUNDS OF ELEMENTS OF THE FIFTH GROUP [K Voprosu o Morfotropii v Kristallicheskom Stroyenii Trifenil'nykh Soyedinenii Elementov V Gruppy] tr. by A. J. C. Wilson. 17 Oct 52, 5p. 5 refs. TL 999; M2073.
Order from LC or SLA mi$1.80, ph$1.80 61-13430

Trans. of [Zhurnal Fizicheskoy] Khimii (USSR) 1952, v. 26 [no. 6] p. 810-812.
Another translation is available from Science Museum Library, London as 52/2938. Apply to UKSM, Washington, for details.

The unit cells and space groups of triphenylamine and triphenylphosphine have been obtained. The incorrectness of the unit cell and space group of triphenylamine in the work of Howells is shown. The presence of fourfold morphotropy and the complete absence of isomorphism in crystals of the triphenyl compounds of elements of the fifth group are shown. (Author)

Kogan, Sh. M.
STATISTICS OF ADSORBED PARTICLES IN THE ELECTRONIC THEORY OF CHEMISORPTION, tr. by Lydia Venters. Oct 60, 8p. 10 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-4298

Trans. of Zhurnal Fiz[icheskoy] Khimii (USSR) 1959, v. 33, no. 1, p. 156-160.

The absolute and relative concentrations of adsorbed particles with different types of linkage to the crystal surface were calculated within the framework of the electronic theory of chemi-sorption utilizing Gibbs' method for systems with a variable number of particles. (Author)

Narzullayev, B. N. and Kalmykova, L. G.
PHYSICAL THEORIES CONCERNING THE STRENGTH OF SOLID BODIES; A SURVEY OF CONTEMPORARY IDEAS (Fizicheskiye Teorii Prochnosti Tverdykh Tel) tr. by Marcel I. Weinreich. 28 Apr 60, 15p. 21 refs.
Order from LC or SLA mi$2.40, ph$3.30 SCL-T-309

Trans. of Akademiya Nauk Tadzhikskoy SSR, Stalinabad. Trudy, 1956, v. 54, p. 103-114.

Seifert, H., Buhl, R. and Seifert, K.-F.
CONSIDERATIONS OF FINE STRUCTURE IN ADSORPTION PROCESSES ON QUARTZ BOUNDARY SURFACES. [1960] 18p.
Order from ATS $26.90 ATS-72M45G

Trans. of Kolloid Z[eitschrift] (West Germany) 1955, v. 141, no. 3, p. 146-159.

Startsev, V. I. and Kosevich, V. M.
RELIEF EFFECTS ON THE CLEAVAGE SURFACES OF Zn, Bi, AND Sb CAUSED BY THE FORMATION OF TWINNED LAYERS. [1960] 9p. 15 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-4120

Trans. of Fizika Metallov i Metallovedeniye (USSR) 1956, v. 2 [no. 2] p. 320ff.

Vartanyan, A. T. and Rozenshteyn, L. D.
THE ROLE OF THE EXCITED SINGLET STATE IN ELECTRICAL CONDUCTIVITY OF SOME ORGANIC SEMICONDUCTORS. [1960] 6p. 10 refs.
Order from LC or SLA mi$1.80, ph$1.80 61-10195

Trans. of Akademiya Nauk SSSR. Doklady, 1960, v. 131, no. 2, p. 279-282.
Another translation is available from ATS $7.00 as ATS-77M40R [1960] 4p.

Theoretical Physics

Gol'din, L. L., Adel'son-Vel'skiy, G. M. and others.
THE ALPHA-DECAY OF NONSPHERICAL NUCLEI (Ó Raspad Nesfericheskikh Yader) tr. by Richard B. Mudge. [1960] 64p. (foreign text included) 10 refs.
Order from LC or SLA mi$3.90, ph$10.80
UCRL Trans-446

Trans. of *Zhurnal Eksperimental'noy Teoreticheskoy Fiziki (USSR) 1958, v. 35, no. 1(7), p. 184-202.

The system of equations for the radial functions describing the movement of the alpha-particles that fly out in the alpha-decay of nonspherical nuclei with an arbitrary spin was examined. Equations were obtained for (1) determining the boundary conditions for the radial functions on the surface of nuclei and (2) expressing the probability of alpha-decay through values of the radial functions on the nucleus and the shape of the nucleus. A simple approximation was obtained, defining the dependence of the probability of alpha-decay on the moment l, carried off by the alpha-particle and the energy of the levels of the daughter nucleus. For even nuclei (O spin) an analysis was made of the various methods of approximate solution of the system of equations for the radial functions. The terms coupling the equations (on account of the nonspherical part of the Coulomb reaction of the alpha-particle with the nucleus) cannot, when $l > 2$, be regarded as a perturbation. An exact numerical solution of the system of equations for an elliptical nucleus with consideration of all the multipole reactions was carried out on the condition that there is a constancy of the wave function on the surface of the nucleus. The effect of higher harmonics in expanding the equation of the surface of the nucleus according to Legendre polynomials was evaluated. (Author)

Osovets, S. M.
DYNAMIC STABILIZATION OF A PLASMA LOOP. Dec 60 [10]p. 5 refs.
Order from OTS $0.50 AEC-tr-4281

Trans. of Dinamicheskaya Stabilizatsiya Plasmennogo Vitka [Moscow].

A method is set forth for the dynamic stabilization of long-wave instabilities of a plasma thread. The stability conditions are listed, together with the region, in which the frequencies, required of the high frequency stabilizing magnetic fields, are valid. (AEC abstract)

Vonsovskiy, S. V., Sokolov, A. V., and Veksler, A. Z.
PHOTO EFFECT IN METALS (Fotoeffekt v Metallakh). [1960] 156p. (foreign text included) 65 refs.
Order from LC or SLA mi$7.50, ph$24.30
UCRL Trans-556(L)

Trans. of Uspekhi Fizicheskikh Nauk (USSR) 1955, v. 56, no. 4, p. 477-530.

A literature survey is presented. Contributions towards the development of a multielectron theory of crystals by the following Soviet theorists are stressed: S. P. Shubin, S. V. Vonsovsky, A. V. Sokolov, and A. F. Ioffe.

Thermodynamics

Alentsev, M. N., Belyayev, A. F. and others.
LUMINESCENCE TEMPERATURE MEASUREMENTS OF EXPLOSIONS BY AN OPTICAL METHOD (Izmereniye Temperatury Svecheniya Vzryva Vzryvchatykh Veshchestv Opticheskim Metodom). 19 Dec 60, 16p. 10 refs. JPRS: 7318.
Order from OTS $0.50 61-11747

Trans. of Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki (USSR) 1946, v. 16, no. 11, p. 990-995.

The explosion luminescence of three liquid explosives-methyl nitrate, nitroglycol and nitroglycerine, has been investigated in water envelopes. It has been established that the radiation luminescence has a temperature and spectral distribution of energy that follows the Wien formula. The temperatures found experimentally are lower than those derived theoretically. (Author)

Averin, Ye. K. and Kruzhilin, G. N.
HEAT TRANSFER IN THE BOILING OF WATER IN CONDITIONS OF FORCED CIRCULATION, ed. by M. A. Mikheyev, tr. by J. B. Sykes. Feb 60 [36]p. 5 refs. AERE Trans. 847; M 1826.
Order from LC or SLA mi$3.00, ph$6.30 61-13150

Trans. of mono. Teploperedacha i Teplovoe Modelirovaniye (Heat Transfer and Thermal Simulation) Moscow, 1959, p. 239-271.

Experiments were performed to determine the critical heat fluxes (i.e., the heats at which tubes are burned out) for seamless, stainless, chrome-nickle tubes cooled by distilled boiling water pumped around them. The outside diameter of the tubes was 6 mm and the walls were 1.0-mm thick. The water-flow rate (w) was varied from 0.85 to 5.5 m/sec, the pressure in the circuit from 1 to 9 kg/cm^2, and the specific heat flux (q) from about 0.2×10^6 $kcal/m^2hr$ to the burnout value (q_{cr}). Tabulations and graphs are presented of values of q, of the difference in °C between the temperature of the tube wall and that of the saturated vapor in front of the heated section, of the heat-transfer coefficient (α) in $kcal/m^2hr°C$, of the w, of the pressure (p) in atm, and of the weight and volume of the steam. Results show that as w increases α also increases when q is small, but decreases when q is large. Critical fluxes could be expressed by the empirical equation $q_{cr} = 1.68 \times 10^6 w^{0.5} p^{0.33}$. At high heat fluxes $\alpha = 7.8\, q^{0.6}\, w^{-0.1}\, p^{0.28}$. Results are in good agreement with previous work (Izvest. Akad. Nauk SSSR Otdel. Tekh. Nauk. 1949: no. 5, 701) and with measurements of Oliver as reported by W. H. McAdams (Heat Transmission, 3d. ed., McGraw-Hill Book Co., N. Y., 1954).

Godunov, S. K.
THE DIFFERENCE METHOD OF COMPUTING SHOCK WAVES. 18 Jan 61, 3p. 2 refs. JPRS: 6607.
Order from OTS $0.50 61-11757

Trans. of Uspekhi Matematicheskikh Nauk (USSR) 1957, v. 12, no. 1(73) p. 176-177.

Hertzricken, S. D., Novikov, M. M., and Kopan, V. S.
THE NATURE OF THE THERMAL e. m. f. ARISING AS A RESULT OF METAL DEFORMATION (Pro Prirodu Termo-ye. r. s., Shcho Vinikae v Rezul'tati Deformuvannya Metalu) tr. by M. Slade. [1960] [12]p. (foreign text included) 15 refs. Trans. no. 4812.
Order from LC or SLA mi$2.40, ph$3.30 61-13955

Trans. of Ukrayins'kyy Fizychnyy Zhurnal (USSR) 1959, v. 4, no. 3, p. 293-298.

When metals are deformed both Thomson's and Peltier's emf change substantially because of a change in the electric resistance of the metals as a result of origination of defects in the crystal lattice (vacancies, dislocations, dislocated atoms, etc). Since the thermal emf depends on the emf of Thomson and of Peltier, the principal cause of origination of thermal emf in a couple: deformed - undeformed metal is a change in the electric resistance of the sample brought about by defects in the crystal lattice which have arisen through deformation. (Author)

Kalikhman, L. Ye.
HEAT EXCHANGE IN THE VICINITY OF THE FORWARD STAGNATION POINT IN AN AXIALLY SYMMETRICAL POINT AND TWO-DIMENSIONAL GAS FLOW (Teploobmen v Okrestnosti Peredney Kriticheskoy Tochki v Osesimmetrichnom i Ploskom Potoke Gaza). Feb 60, 9p. 8 refs. TIL/T-4927; M1746; AD-235 548.
Order from LC or SLA mi$1.80, ph$1.80 61-13081

Trans. of Akad[emiya] Nauk SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izv[estiya] 1955, no. 8, p. 11-16.

Karavayev, N. M. and Maykov, V. M.
A METHOD FOR THE DETERMINATION OF HEAT TRANSFER COEFFICIENTS IN A BED OF GRANULAR MATERIAL (Metod Opredeleniya Koeffitsientov Teplootdachi v Sloye Zornistogo Materiala). [1960] 16p. (30 equations, 6 figs. 1 table omitted) 6 refs. M1689.
Order from LC or SLA mi$2.40, ph$3.30 61-13033

Trans. of Akad[emiya] Nauk SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izv[estiya] 1956, no. 6, p. 89-100.

Petrovichev, V. I. and Kokorev, L. S.
HEAT TRANSFER TO LIQUID METALS IN TURBULENT FLOW WHEN THE THERMAL LOAD IS DISTRIBUTED SINUSOIDALLY ALONG THE LENGTH OF THE PIPE (Teploatdacha k Turbulentnomu Potku Metalla pri Sinusoidal'nom Raspredelenii Teplovoy Nagruzki po Dline Truby). Oct 60 [11]p. 7 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-4218

Trans. of Inzhener[no]-Fiz[icheskiy] Zhur[nal] (USSR) 1959, v. 2, no. 12, p. 20-25.

A distribution of local Nu numbers along the length of the pipe is found for a sinusoidal distribution of heat load on the wall of a round pipe, with turbulent flow of liquid metal and Pr number 0.025, for Re numbers 10×10^3, 50×10^3, and 100×10^3, and length/diameter ratios of 44.6, 67 and 100. The dimensionless coefficient of heat exchange Nu coincides all over the length of the pipe, but the greatest change in Nu is at the two ends of the pipe. When the temperature of the wall reaches a maximum in a section of the pipe, the coefficient of heat transfer is somewhat less than the value obtained from the formula q_{CT} = const. This difference is greater for small Re numbers and length/diameter ratios, and decreases with an increase in the Re numbers and length/diameter ratio. The position of the temperature maximum on the wall shifts somewhat along the flow of the transfer medium in comparison with results from the formula q_{CT} = const. This shift is greater for large Re numbers and for smaller length/diameter ratios.

Semenchenko, V. K.
THE THERMODYNAMICS OF THE SUPERSTATE: LETTER TO THE EDITOR. [1960] [8]p. 5 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-4271

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1959, v. 33 [no. 6] p. 1440-1445.

The conditions for thermodynamical stability furnish a solution of the problem of the identity of superstates.

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

CURRENT REVIEW OF THE SOVIET TECHNICAL PRESS, 27 Jan-10 Feb 61. 3 nos.
Order from OTS $7.00/6 mos. 60-21441(38-40)

Contains reviews in English of Soviet press articles.

JOURNAL OF THE ACADEMY OF SCIENCES OF THE U.S.S.R. NO. 12, DECEMBER 1958. [1960] 259p. M1733.
Order from LC or SLA mi$11.10, ph$39.60 61-13068

Trans. of Akademiya Nauk SSSR. Vestnik, 1958 [v. 28] no. 12.

Contents:
Encouraging prospects
An outstanding scientific discovery, by I. V. Kurchatov, N. N. Semenov and others
Technical mining problems of the exploitation of the Kursk magnetic anomaly, by M. I. Agoshkov and N. B. Yenikeyev
Some results and perspectives of the study of Russian literature of the X-XVIIth centuries, by D. S. Likhachev
An important anniversary
Against the threat of atomic war
A universal pulse reductor, by V. V. Patrikeyev and V. A. Ferapontov
A valuable plant for fodder and tanning (polygonum divaricatum L.) by V. M. Kuznetsov
New advances in astronomy (Xth International Astronomical Congress) by B. V. Kukarkin and P. G. Kulikovski
Research development according to the IGY programme, by Yu. D. Boulanger
An important event in the development of teaching about the higher nervous activity (International convention on electro-encephalography of the higher nervous activity, Moscow) by G. D. Smirnov
Negotiations between the delegations of the Academy of Sciences USSR and the National Academy of Sciences, USA
Two conventions on physics of high-energy reactions (in Lieblitz and Balaton) by G. B. Zhdanov
The International convention on clays (in Belgium) by F. V. Chukhrov
Problems of the biological campaign against insects, by I. A. Rubtsov
The XVth International Congress of Horticulturists (in Nice) by N. V. Tsitsin
The 400th anniversary of the University of Jena, by G. A. Chebotarev
The latest excavations in Pompeii, by S. L. Utchenko
A visit of Japanese philosophers to the U.S.S.R.
Short reports
In the Presidium of the Academy of Sciences of the U.S.S.R.
Gold medals and commemorative prizes for 1959
Nine years of the Chinese People's Republic (Jubilee Session of the Sinological Institute) by B. N. Zanegin
The influence of aeroions on the human organism (report of the American scientist Dr. Cornblew at the Pavlov Institute of Physiology) by A. M. Skorobogatove
Conformation concepts in organic chemistry (convention in Moscow) by M. G. Gonikberg and L. D. Bergelson
Chemistry and the practical application of silico-organic compounds (All-Union Conference in Leningrad) by M. G. Voronkov and V. B. Losev (available separately from LC or SLA mi$1.80, ph$1.80 as 60-13661 or 61-10164)
Problems of Soviet socialist law (Scientific session of the Law Institute) by V. V. Laptev
Notable dates
Criticism and bibliography

SCIENTIFIC RESEARCH INSTITUTES OF THE USSR. Jan 61 [93]p.
Order from OTS $1.50 60-21926, rev. 6

The institutes are listed in alphabetical order and the following data, based exclusively on Soviet sources, are given: name of the institute with an English translation, abbreviated name, if possible, and location or full address. The institutes are numbered and a subject index lists them numerically according to 36 scientific fields.

Dobrovol'skyy, L. G.
MODERN COMPUTING MACHINES AND THE PSYCHIC ACTIVITY OF MAN (Suchasni Elektronno-Lichyl'ni Mashyny i Psykhichna Diyal'nist' Lyudyny). 16 Dec 60, 15p. JPRS: 7315.
Order from OTS $0.50 61-11841

Trans. of Fiziologichnyy Zhurnal (USSR) 1960, v. 6, no. 4, p. 450-458.

Khalikov, G. A.
THE COMPUTATION OF AREALLY WEIGHTED AVERAGE QUANTITIES. [1960] 5p.
Order from ATS $6.25 ATS-82M43R

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zaved[eniy]. Neft' i Gaz (USSR) 1960, v. 3, no. 2, p. 53-57.

Oppelt, W.
THE APPLICATION OF THE DESCRIBING FUNCTION METHOD FOR DETERMINING THE STABILITY OF SAMPLED DATA CONTROL. [1961].
Order from BISI £2 15s BISI 1697

Trans. of Regelungstechnik (West Germany) 1960, v. 8, Jan, p. 15-18.

SOCIAL SCIENCES

Schroder, J.
A FILING SYSTEM FOR MEDICAL LITERATURE USING SIMPLE MEANS. [1960] 7p.
Order from ATS $10.65 ATS-84M45G

Trans. of die Medizinische (West Germany) 1960, no. 8, p. 423-427.

BOOK REVIEWS

The following book reviews can be ordered by number from LC or SLA. Each review includes in addition to the material shown, a detailed statement of the coverage of the book and a detailed table of contents. The length of each review is indicated at the end of the entry.

BR-SOV/4322
Kim, A. Kh.
NEKOTORYYE VOPROSY REOLOGII VYAZKO-PLASTICHNYKH DISPERSNYKH SISTEM (Certain Problems in the Rheology of Viscoplastic Disperse Systems) Minsk, Red. izd-vo otdel BPI im. I. V. Stalina, 1960. 81p. 1,250 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4323
Dorfman, Lev Abramovich
GIDRODINAMICHESKOYE SOPROTIVLENIYE I TEPLOOTDACHA VRASHCHAYUSHCHIKHSYA TEL (Hydrodynamic Resistance and Heat Transfer of Rotating Bodies) Moscow, Fizmatgiz, 1960. 260p. 5,500 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4332
Akademiya nauk SSSR, Institut teoreticheskoy astronomii
EFEMERIDY MALYKH PLANET NA 1959 god, tom 13 (Ephemerides of Minor Planets for 1959, v. 13). Moscow, 1958. 169p. Errata slip inserted. 1,000 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4348
Maslov, Aleksey Vasil'yevich
NASTAVLENIYE PO PROIZVODSTVU MENZULNYKH I TEODOLITNYKH S"YEMOK V MASSHTABE 1:10,000 (Instruction for Plane Table and Theodolite Surveying at a Scale of 1:10,000 [2d ed., rev.] Moscow, Geodezizdat, 1960. 322p. 10,000 copies printed. 6p. Mi $1.80, ph $1.80.

BR-SOV/4353
Petrushov, V. A.
ANALIZ RABOTY MNOGODISKOVYKH FRIKTSIONNYKH TRANSFORMATOROV (Analysis of the Operation of Multidisk Friction Gears) Moscow, Mashgiz, 1960. 78p. (Series: Tsentral'nyy nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut, NAMI vyp. 90) Errata slip inserted. 1,725 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4354
Shorin, Aleksey Ivanovich, and Vasiliy Mikhaylovich Starostin
PROIZVODSTVO SPIRAL'NOGO METALLOREZHUSHCHEGO INSTRUMENTA METODOM SKRUCHIVANIYA DVUKH METALLOV (The Manufacture of Helical Metal-Cutting Tools by Twisting Two Metals [Together] Moscow, Mashgiz, 1960. 54p. 4,500 copies printed. 2p. Mi $1.80, ph $1.80.

BR-CZECH/4388
Basta, Jan, and others
MERENI NA ELEKTRICKYCH STROJICH. [sv.] 2: MERENI NA TRANSFORMATORECH (Measurements of Electric Machines, v. 2: Measurements of Transformers) Prague, SNTL, 1959. 247p. 2,700 copies printed. 7p. Mi $1.80, ph $1.80.

BR-SOV/4406
Churilovich, Lev Mikhaylovich
UCHET PROIZVODSTVA I KAL'KULYATSIYA V TSVETNOY METALLURGII (Production Accounting and Estimates in Nonferrous Metallurgy) Moscow, Metallurgizdat, 1960. 304p. 2,200 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4417
Akademiya nauk SSSR. Fizicheskiy institut
ISSLEDOVANIYA PO OPTIKE (Optics Research) Moscow, 1960. 273p. (Its: Trudy, tom 12) 2,200 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4447
Fedoseyev, Pavel Gavrilovich
VYPRYAMITELI I STABILIZATORY (Rectifiers and Regulators) Moscow, Iskusstvo, 1960. 517p. 5,200 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4449
USSR. Komitet standartov, mer i izmeritel'nykh priborov
PROVOLOKA IZ TSVETNYKH METALLOV I SPLAVOV (Nonferrous Metal and Alloy Wires) Official ed. Moscow, Standartgiz, 1959. 145p. Errata slip inserted. 6,000 copies printed. (Series: SSSR. Gosudarstvennyye standarty) 2p. Mi $1.80, ph $1.80.

BR-SOV/4457
Labutin, Vadim Konstantinovich
PROSTEYSHIYE KONSTRUKTSII NA TRANZISTORAKH (Simplest Transistorized Equipment) 2d ed., rev. and enl. Moscow, Gosenergoizdat, 1960. 63p. (Series: Massovaya radiobiblioteka, vyp. 362) 75,000 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4461
Akademiya nauk Latviyskoy SSR
NAUKA - PROIZVODSTVU; KRATKIYE ANNOTATSII RABOT, VYPOLNENNYKH DLYA PROMYSHLENNOSTI I STROITEL'STVA, vyp. 4 (From Science to Production; Short Annotations of Work Accomplished for Industry and Construction, Vol. 4) Riga, 1959. 119p. 1,000 copies printed. 7p. Mi $1.80, ph $1.80.

BR-SOV/4467
Predvoditelev, Aleksandr Savvich, and others
TERMODINAMICHESKIYE FUNKTSII VOZDUKHA DLYA TEMPERATUR OT 1000 DO 12,000° K I DAVLENIY OT 0,001, DO 1000 ATM (GRAFIKI FUNKTSIY) (Thermodynamic Functions of the Air for Temperatures From 1,000 to 12,000° K. and Pressures From 0.001 to 1,000 atm. /Graphs of the Functions/) Moscow, Izd-vo AN SSSR, 1960.

53p. Errata slip inserted. 2, 500 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4488
Akademiya nauk SSSR. Energeticheskiy institut
GORENIYE PRI PONIZHENNYKH DAVLENIYAKH I NEKOTORYYE VOPROSY STABILIZATSII PLAMENI V ODNOFAZNYKH I DVUKHFAZNYKH SISTEMAKH (Combustion at Reduced Pressures and Certain Problems in the Stabilization of the Flame in Single-Phase and Two-Phase Systems) Moscow, 1960. Errata slip inserted. 5, 000 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4491
Akademiya stroitel'stva i arkhitektury SSSR. Institut betona i zhelezobetona
KORROZIYA ZHELEZOBETONA I METODY ZASHCHITY (Corrosion of Reinforced Concrete and Methods of Protection Against It) Moscow, Gosstroyizdat, 1960. 131p. Errata slip inserted. (Series: Its: Trudy, vyp. 15) 5, 000 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4502
Akademiya nauk SSSR. Nauchnyy sovet po probleme zharoprochnykh splavov
ISSLEDOVANIYA PO ZHAROPROCHNYM SPLAVAM, tom 6 (Investigations of Heat-Resistant Alloys, Vol. 6) Moscow, 1960. 319p. Errata slip inserted. 5p. Mi $1.80, ph $1.80.

BR-SOV/4505
Gamburtsev, Grigoriy Aleksandrovich
IZBRANNYYE TRUDY (Selected Works) Moscow, Izd-vo AN SSSR, 1960. 461p. Errata slip inserted. 2, 500 copies printed. 4p. Mi $1.80, ph $1.80.

BR-SOV/4510
Finkel'shteyn, David Naumovich
INERTNYYE GAZY (Inert Gases) Moscow, Izd-vo "Znaniye," 1960. 37p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya 9, 1960. Fizika i Khimiya, 12) 28, 000 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4511
Moscow. Tsentral'nyy institut prognozov
VOPROSY GIDROLOGII (Problems in Hydrology) Moscow, Gidrometeoizdat (Otd-niye) 1959. 98p. (Series: Its: Trudy, vyp. 94) 800 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4512
Tsentral'naya aerologicheskaya observatoriya
ATMOSFERNAYA TURBULENTNOST' (Atmospheric Turbulence) Moscow, Gidrometeoizdat, (Otd-niye), 1960. 102p. (Its: Trudy, vyp. 34) 750 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4518
Dikiy, Aleksandr Danilovich, and Ivan Andreyevich Soldatov
PEREDATCHIKI RADIOTEKHNICHESKIKH SREDSTV (Radio Transmitters) Moscow, Voyenizdat, 1960. 367p. No. of copies printed not given. 3p. Mi $1.80, ph $1.80.

BR-SOV/4526
Soveshchaniye po teorii invariantnosti i yeye primeneniyu v avtomaticheskikh ustroystvakh. Kiyev, 1958
TEORIYA INVARIANTNOSTI I YEYE PRIMENENIYE V AVTOMATICHESKIKH USTROYSTVAKH; TRUDY SOVESHCHANIYA (Theory of Invariance and Its Applications to Automatic Devices; Transactions of the Conference Oct. 16-20, 1958) Moscow, 1959. 381p. No. of copies printed not given. 4p. Mi $1.80, ph $1.80.

BR-SOV/4529
Tomsk. Universitet. Kafedra eksperimental'noy i obshchey fiziki
FIZICHESKIY PRAKTIKUM, Ch. 1: PERVAYA FIZICHESKAYA LABORATORIYA. MEKHANIKA I MOLEKULYARNAYA FIZIKA (Laboratory Physics, Pt. 1: First Physics Laboratory. Mechanics and Molecular Physics) Tomsk, 1959. 136p. 3, 000 copies printed. 3p. Mi $1.80. ph $1.80.

BR-SOV/4530
Vsesoyuznoye soveshchaniye po osnovnym problemam teorii mashin i mekhanizmov. 2d, Moscow, 1958
DINAMIKA MASHIN; SBORNIK STATEY (Dynamics of Machines; Collection of Articles) Moscow, Mashgiz, 1960. 240p. (Its: Trudy) Errata slip inserted. 3, 000 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4533
Shkurin, Grigoriy Pavlovich
SPRAVOCHNIK PO ELEKTROIZMERITEL'NYM I RADIOIZMERITEL'NYM BRIBORAM, Tom 1: ELEKTROIZMERITEL'NYYE PRIBORY (Handbook on Electric and Radio Measuring Instruments, Vol. 1: Electric Measuring Instruments) 3rd ed., rev. and enl. Moscow, Voyenizdat, 1960. 658p. No. of copies printed not given. 13p. Mi $2.40, ph $3.30.

BR-SOV/4538
Kafengauz, Aleksandr Petrovich
SINTETICHESKIYE PENOPLASTY I POROPLASTY (Synthetic Foam and Porous Plastics) [Vladimir] Vladimirskoye knizhnoye izd-vo, 1959. 56p. 3,000 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4540
Danilov, V. I., and others
FORMIROVANIYE MAGNITNOGO POLYA TSIKLOTRONA S PROSTRANSTVENNOY VARIATSIYEY (Production of a Magnetic Field in a Cyclotron With Space Variation) Dubna [Izdatel'skiy otdel Ob"yedinennogo instituta yadernykh issledovaniy] 1959. 27p. 300 copies printed. [PHOTOCOPY] 1p. Mi $1.80, ph $1.80.

BR-SOV/4542
Brazhnikov, Nikolay Vasil'yevich, and Il'ya Savel'yevich Rapoport
MONTAZH, EKSPLUATATSIYA I REMONT ELEKTRICHESKOGO OBORUDOVANIYA METALLURGICHESKIKH ZAVODOV (Installation, Operation, and Maintenance of Electrical Equipment in Metallurgical Plants) Sverdlovsk, Metallurgizdat, Sverdlovskoye otd-niye, 1960. 335p. Errata slip

inserted. 7,200 copies printed. 4p. Mi $1.80, ph $1.80.

BR-SOV/4544
Ivanov, V. V., and others
TALLIY; OSNOVNYYE CHERTY GEOKHIMII I MINERALOGII, GENETICHESKIYE TIPY MESTOROZHDENIY I GEOKHIMICHESKIYE PROVINTSII (Thallium; Basic Features of Its Geochemistry and Mineralogy, Genetic Types of Deposits, and Geochemical Provinces) Moscow, Izd-vo AN SSSR, 1960. 154p. Errata slip inserted. 3,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4548
Akademiya nauk SSSR. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali
PRIMENENIYE VAKUUMA V METALLURGII (Use of Vacuum in Metallurgy) Moscow, Izd-vo AN SSSR, 1960. 334p. Errata slip inserted. 4,500 copies printed. 4p. Mi $1.80, ph $1.80.

BR-SOV/4549
Polukhin, Petr Ivanovich, and others
PROKATNOYE PROIZVODSTVO (Manufacture of Rolled Products) Moscow, Metallurgizdat, 1960. 966p. Errata slip inserted. 10,500 copies printed. 6p. Mi $1.80, ph $1.80.

BR-SOV/4550
Mal'tsev, Mikhail Vasil'yevich, and others
METALLOGRAFIYA TSVETNYKH METALLOV I SPLAVOV; S PRILOZHENIYEM ATLASA MAKRO-I MIKROSTRUKTUR (Metallography of Nonferrous Metals and Alloys, Including an Atlas of Macrostructures and Microstructures) Moscow, Metallurgizdat, 1960. 372p. 5,200 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4551
Slavin, David Osipovich
TEKHNOLOGIYA METALLOV I DRUGIKH MATERIALOV (Processing of Metals and Other Materials) Moscow, Uchpedgiz, 1960. 414p. 25,000 copies printed. 7p. Mi $1.80, ph $1.80.

BR-SOV/4553
Vsesoyuznoye ob"yedinennoye soveshchaniye po avtomatizatsii proizvodstvennykh protsessov v mashinostroyenii i avtomatizirovannomu elektroprivodu v promyshlennosti. 3d, Moscow, 1959
ELEKTROPRIVOD I AVTOMATIZATSIYA PROMYSHLENNYKH USTANOVOK; TRUDY SOVESHCHANIYA (Electric Drive and Automation in Industrial Systems; Transactions of the Conference) Moscow, Gosenergoizdat, 1960. 470p. 11,000 copies printed. 12p. Mi $2.40, ph $3.30.

BR-SOV/4555
Voytikov, Viktor Vladimirovich, and others
TRELEVOCHNYY TRAKTOR TDT-60 (The TDT-60 Skidding Tractor) Moscow, Goslesbumizdat, 1958. 265p. 40,000 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4556
Ayzenberg, B. I., and others
PROYEKTIROVANIYE MASHINOSTROITEL'NYKH ZAVODOV; SPRAVOCHNOYE POSOBIYE PO ORGANIZATSII I METODIKE PROYEKTIROVANIYA (Planning of Machine-Building Plants; Reference Book on the Organization and Methods of Planning) Moscow, Mashgiz, 1960. 379p. Errata slip inserted. 13,000 copies printed. 4p. Mi $1.80, ph $1.80.

BR-SOV/4559
Voyutskiy, Sergey Sergeyevich
RASTVORY VYSOKOMOLEKULYARNYKH SOYEDINENIY (Solutions of High-Molecular Compounds) 2nd ed. Moscow, Goskhimizdat, 1960. 131p. 10,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4560
Tsentral'naya aerologicheskaya observatoriya
TRUDY, vyp. 25 (Transactions of the Central Aerological Observatory, no. 25) Leningrad, Gidrometeoizdat, 1959. 83p. 700 copies printed. 1p. Mi $1.80, ph $1.80.

BR-CZECH/4561
Puncochar, Jaroslav
TEPELNE OBEHY PLYNOVYCH TURBIN (Heat Cycles of Gas Turbines) Prague, Naklad. Ceskoslovenske Akademie ved, 1960. 77p. (Series: Ceskoslovenska akademie ved. Rozpravy. Rada technickych ved, Rocnik 70, Sesit 2) 800 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4567
Nekrasov, Boris Borisovich
GIDRAVLIKA (Hydraulics) Moscow, Voyenizdat, 1960. 263p. No. of copies printed not given. 3p. Mi $1.80, ph $1.80.

BR-SOV/4568
Kubal'skiy, Yuriy Alekseyevich
KACHESTVENNYYE POLAZATELI RADIOVESHCHATEL'NOTO TRAKTA I METODY IKH IZMERENIYA (Qualitative Indexes and Methods of Measuring Them in Radio Broadcasting Channels) Moscow, Svyaz'izdat, 1960. 25p. (Series: Lektsii po tekhnike svyazi) 10,300 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4577
Temnikov, Fedor Yevgen'yevich
AVTOMATICHESKIYE REGISTRIRUYUSHCHIYE PRIBORY (Automatic Recording Instruments) 2nd ed., rev. and enl. Moscow, Mashgiz, 1960. 459p. 11,000 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4588
Levin, Boris Yul'yevich
PROISKHOZHDENIYE ZEMLI I PLANET (Origin of the Earth and Planets) 3d ed., enl. Moscow, Fizmatgiz, 1959. 82p. (Series: Populyarnyye lektsii po astronomii, vyp. 3) 20,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4591
Rozen, Boris Yakovlevich
UDIVITEL'NYYE MATERIALY (Amazing Materials) Moscow, Izd-vo "Znaniye," 1959. 85p. 35,000 copies printed. 1p. Mi $1.80. ph $1.80.

BR-SOV/4592
Moscow. Gosudarstvennyy nauchno-issledovatel'skiy institut plasticheskikh mass
ISSLEDOVANIYA V OBLASTI TERMOREAKTIVNYKH PLASTMASS (Investigations in the Field of Thermosetting Plastics) Moscow, Goskhimizdat, 1959. 98p. Errata slip inserted. 1,000 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4604
Arnautov, N. V.
SPEKTROGRAFICHESKOYE OPREDELENIYE GERMANIYA V MINERAL'NOM SYR'YE (Spectrographic Determination of Germanium in Raw Minerals) Novosibirsk, Izd-vo Sibirskogo otd-niya AN SSSR, 1959. 60p. 1,000 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4609
Akademiya nauk SSSR. Institut nauchnoy informatsii
NEKOTORYYE VOPROSY FIZIKI PLASTICHNOSTI KRISTALLOV (Some Problems in the Physics of the Plasticity of Crystals) Moscow, 1960. 209p. (Series: Itogi nauki: Fizikomaticheskiye nauki, 3) 2,700 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4610
Leningrad. Arkticheskiy i Antarkticheskiy nauchno-issledovatel'skiy institut
PROBLEMY ARKTIKI I ANTARKTIKI; SBORNIK STATEY, VYP. 3 (Problems of the Arctic and Antarctic; Collection of Articles, No. 3) Leningrad, Izd-vo "Morskoy transport," 1960. 119p. 500 copies printed. [Xerox copy] 2p. Mi $1.80, ph $1.80.

BR-SOV/4613
Akademiya nauk SSSR. Ural'skiy filial. Institut metallurgii
VOPROSY KONTROLYA I KOMPLEKSNOGO ISPOLZOVANIYA SYR'YA V METALLURGII (Problems of Control and Complete Utilization of Raw Materials in Metallurgy) Sverdlovsk, 1960. 194p. (Series: Its: Trudy, vyp. 5) Errata slip inserted. 1,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4615
Bashta, Trifon Maksimovich
GIDRAVLICHESKIYE SLEDYASHCHIYE PRIVODY (Hydraulic Servodrives) Moscow, Mashgiz, 1960. 281p. 14,000 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4616
Perel'man, Fanya Moiseyevna
RUBIDIY I TSEZIY (Rubidium and Cesium) 2nd ed., rev. and enl. Moscow, Izd-vo AN SSSR, 1960. 137p. Errata slip inserted. 4,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4620
USSR. Vsesoyuznyy komitet standartov
PLASTICHESKIYE MASSY ORGANICHESKOGO PROISKHOZHDENIYA; METODY ISPYTANIY (Plastics of Organic Origin; Testing Methods) Official ed. Moscow, 1959. 56p. (Series: SSSR. Gosudarstvennyye standarty) 12,000 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4621
Bedel'bayev, Abdesh Kuramayevich
USTOYCHIVOST' NELINEYNYKH SISTEM AVTOMATICHESKOGO REGULIROVANIYA (Stability of Nonlinear Automatic-Control Systems) Alma-Ata, Izd-vo AN Kazakhskoy SSR, 1960. 163p. Errata slip inserted. 1,775 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4622
Speranskiy, Nikolay Vasil'yevich
PROYEKTIROVANIYE MAL'TIYSKIKH MEKHANIZMOV (Designing Geneva Mechanisms) Moscow, Izd-vo AN SSSR, 1960. 94p. (Series: Problemy teorii mashin) Errata slip inserted. 4,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4632
Zaruba, Igor' Ivanovich, and others
SVARKA V UGLEKISLOM GAZE (Carbon Dioxide Shielded [Arc] Welding) Kiyev, Gostekhizdat, 1960. 223p. 8,200 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4633
Kalashnikov, Sergey Nikiforovich
OPYT PRIMENENIYA RATSIONAL'NYKH KONSTRUKTSIY REZTSOVYKH GOLOVOK (Experience in the Use of Efficient Designs of [Gear] Cutters) Moscow, Mashgiz, 1960. 121p. 5,000 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4634
Epshteyn, Yevgeniy Fedorovich, and others
NOVYYE METODY RAZRUSHENIYA GORNYKH POROD (New Methods of Disintegrating Rocks) Moscow, Gostoptekhizdat, 1960. 85p. 2,100 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4636
Popov, Pavel Ivanovich
ASTRONOMIYA; UCHEBNIK DLYA GEOGRAFICHESKIKH FAKUL'TETOV (Astronomy; Manual for Geography Department) Moscow, Uchpedgiz, 1959. 255p. 8,500 copies printed. 4p. Mi $1.80, ph $1.80.

BR-SOV/4639
Bondar', Mikhail Pavlovich
NOVOYE V KONSTRUIROVANII MEKHANIZMOV (New Aspects in the Designing of Mechanisms) Kiyev, Gostekhizdat UkrSSR, 1960. 191p. 5,000 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4643
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VOPROSY FIZIKI OBLAKOV I AKTIVNYKH VOZDEYSTVIY (Problems in the Physics of Clouds and Active Modification) Leningrad, Gidrometeoizdat, 1960. 93p. (Series: Its: Trudy, vyp. 104) 1,000 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4644
SPETSIALIZATSIYA I KOOPERIROVANIYE PROMYSHLENNOSTI; OPYT RABOTY SOVNARKHOZOV (Specialization and Cooperation in Industry; Operating Experience of Councils of National Economy) Moscow, Gosplanizdat, 1960. 253p. 5,000 copies printed. 2p. Mi $ .80, ph $1.80.

BR-SOV/4645
Rozenfel'd, Lev Markovich, and Anatoliy Georgiyevich Tkachev
KHOLODIL'NYYE MASHINY I APPARATY (Refrigerating Machines and Devices) 2nd ed., rev. and enl. Moscow, Gostorgizdat, 1960. 656p. 12,000 copies printed. 5p. Mi $1.80, ph $1.80.

BR-SOV/4646
Reshetov, Vadim Dmitriyevich
OTKLONENIYA VETRA OT GRADIYENTNOGO I YAVLENIYA NESTATICHNOSTI V ATMOSFERE (Deviation of Wind From the Gradient Direction and Nonstatic Phenomena in the Atomsphere) Moscow, Gidrometeoizdat, 1960. 93p. Errata slip inserted. 1,200 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4650
Aven, Oleg Ivanovich, and Sergey Mikhaylovich Domanitskiy
BESKONTAKTNYYE ISPOLNITEL'NYYE USTROYSTVA PROMYSHLENNOY AVTOMATIKI (Contactless Servodevices in Industrial Automation) Moscow, Gosenergoizdat, 1960. 343p. Errata slip inserted. 12,000 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4651
Moscow. Inzhenerno-fizicheskiy institut
VYCHISLITEL'NAYA TEKHNIKA; SBORNIK STATEY (Computer Technique; Collection of Articles) Moscow, Atomizdat, 1960. 54p. 2,500 copies printed. 2p. Mi $1.80. ph $1.80.

BR-SOV/4652
Kuznetsov, Nikolay Semenovich, and Anatoliy Aleksandrovich Opanasyuk
PEREDOVYYE METODY RAZMETKI PO SHABLONAM I KALIBRAM (Advanced Layout Methods With Templets and Gauges) Moscow, Mashgiz, 1960. 68p. (Series: Biblioteka razmetchika, vyp. 5) 10,000 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4654
Savitskiy, Yevgeniy Mikhaylovich
REDKIYE METALLY I SPLAVY (Rare Metals and Alloys) Moscow, Dom tekhniki, 1959. 83p. No. of copies printed not given. 1p. Mi $1.80, ph $1.80.

BR-SOV/4656
Kolyandr, Lev Yakovlevich
PERERABOTKA SYROGO BENZOLA (Refining of Raw Benzene) Khar'kov, Metallurgizdat, 1960. 319p. Errata slip inserted. 1,950 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4660
Shcherbakov, O. K.
ISTOCHNIKI POSTOYANNOGO TOKA DLYA VYCHISLITEL'NYKH MASHIN (D-C Sources for Computers) Moscow, 1959. 19p. (Series: Elektronnyye vychislitel'nyye mashiny) 500 copies printed. 1p. Mi $1.80, ph $1.80.

BR-SOV/4661
Abramov, V. K.
CHELOVEK I TEKHNIKA V SOVREMENNOY VOYNE (Man and Technology in Modern Warfare) Moscow, Voyenizdat, 1960. 103p. No. of copies printed not given. 1p. Mi $1.80, ph $1.80.

BR-SOV/4662
Murin, Georgiy Aleksandrovich
TEPLOTEKHNICHESKIYE IZMERENIYA (Heat Engineering Measurements) 3d ed., rev. Moscow, Gosenergoizdat, 1958. 568p. 17,000 copies printed. 2p. Mi $1.80, ph $1.80.

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Tishchenko, Oleg Fedorovich
KONTROL'NO-IZMERITEL'NYYE PRIBORY V MASHINOSTROYENII (Control and Measuring Instruments [Used] in Machine Building) Moscow, Mashgiz, 1960. 311p. 20,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4664
Tepinkichiyev, Vladimir Karpovich
PROGRAMMNOYE UPRAVLENIYE STANKAMI (Program Control of Machine Tools) [Rostov-na-Donu] Rostovskoye knizhnoye izd-vo, 1959. 74p. 2,000 copies printed. 1p. Mi $1.80, ph $1.80.

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BR-SOV/4670
Khoteyev, A. A., and M. V. Gazaliyev
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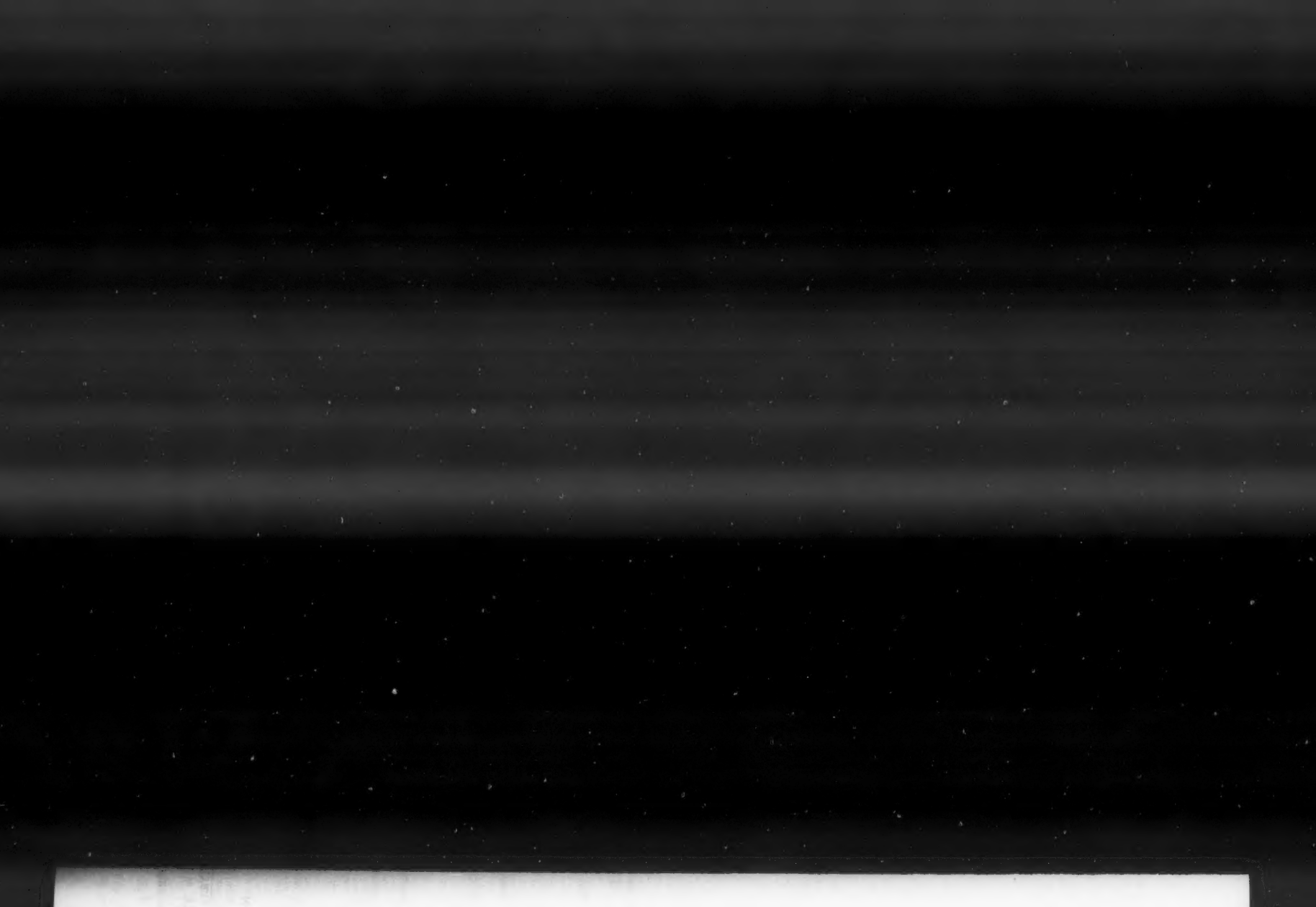

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